Tf Chai

List of Publications by Year
in descending order

58 papers	5,615 citations	186265 28 h-index	144013 57 g-index
83 all docs	83 docs citations	83 times ranked	6525 citing authors

#	Article	IF	Citations
1	Root mean square error (RMSE) or mean absolute error (MAE)? â€“ Arguments against avoiding RMSE in the literature. Geoscientific Model Development, 2014, 7, 1247-1250.	3.6	3,175
2	Adjoint sensitivity analysis of regional air quality models. Journal of Computational Physics, 2005, 204, 222-252.	3.8	201
3	Photosynthetic Control of Atmospheric Carbonyl Sulfide During the Growing Season. Science, 2008, 322, 1085-1088.	12.6	196
4	Predicting air quality: Improvements through advanced methods to integrate models and measurements. Journal of Computational Physics, 2008, 227, 3540-3571.	3.8	134
5	Adjoint inverse modeling of black carbon during the Asian Pacific Regional Aerosol Characterization Experiment. Journal of Geophysical Research, 2005, 110, n/a-n/a.	3.3	110
6	Long-term NOx trends over large cities in the United States during the great recession: Comparison of satellite retrievals, ground observations, and emission inventories. Atmospheric Environment, 2015, 107, 70-84.	4.1	107
7	A regional scale chemical transport modeling of Asian aerosols with data assimilation of AOD observations using optimal interpolation technique. Atmospheric Environment, 2008, 42, 8600-8615.	4.1	104
8	Influence of lateral and top boundary conditions on regional air quality prediction: A multiscale study coupling regional and global chemical transport models. Journal of Geophysical Research, 2007, 112, .	3.3	82
9	Chemical Data Assimilationâ€”An Overview. Atmosphere, 2011, 2, 426-463.	2.3	79
10	Ensembleâ€based chemical data assimilation. I: General approach. Quarterly Journal of the Royal Meteorological Society, 2007, 133, 1229-1243.	2.7	69
11	Four-dimensional data assimilation experiments with International Consortium for Atmospheric Research on Transport and Transformation ozone measurements. Journal of Geophysical Research, 2007, 112, .	3.3	66
12	Evaluation of the United States National Air Quality Forecast Capability experimental real-time predictions in 2010 using Air Quality System ozone and NO₂ measurements. Geoscientific Model Development, 2013, 6, 1831-1850.	3.6	64
13	Adjoint Sensitivity Analysis of Ozone Nonattainment over the Continental United States. Environmental Science & Technology, 2006, 40, 3855-3864.	10.0	57
14	Chemical data assimilation of Transport and Chemical Evolution over the Pacific (TRACE-P) aircraft measurements. Journal of Geophysical Research, 2006, 111, .	3.3	55
15	Regional NOx emission inversion through a four-dimensional variational approach using SCIAMACHY tropospheric NO2 column observations. Atmospheric Environment, 2009, 43, 5046-5055.	4.1	54
16	Ensembleâ€based chemical data assimilation. II: Covariance localization. Quarterly Journal of the Royal Meteorological Society, 2007, 133, 1245-1256.	2.7	46
17	Assessment of ensemble-based chemical data assimilation in an idealized settingâ˜†. Atmospheric Environment, 2007, 41, 18-36.	4.1	45
18	Assessment of NOx and O3 forecasting performances in the U.S. National Air Quality Forecasting Capability before and after the 2012 major emissions updates. Atmospheric Environment, 2014, 95, 610-619.	4.1	43

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19	Improving volcanic ash predictions with the HYSPLIT dispersion model by assimilating MODIS satellite retrievals. Atmospheric Chemistry and Physics, 2017, 17, 2865-2879.	4.9	43
20	Autoregressive models of background errors for chemical data assimilation. Journal of Geophysical Research, 2007, 112, .	3.3	40
21	AÂcase study of aerosol data assimilation with the Community Multi-scale Air Quality Model over the contiguous United States using 3D-Var and optimal interpolation methods. Geoscientific Model Development, 2017, 10, 4743-4758.	3.6	39
22	Source term estimation using air concentration measurements and a Lagrangian dispersion model â€“ Experiments with pseudo and real cesium-137 observations from the Fukushima nuclear accident. Atmospheric Environment, 2015, 106, 241-251.	4.1	38
23	Potential Use of Transport and Dispersion Model Ensembles for Forecasting Applications. Weather and Forecasting, 2015, 30, 639-655.	1.4	37
24	Top-down estimate of mercury emissions in China using four-dimensional variational data assimilation. Atmospheric Environment, 2007, 41, 2804-2819.	4.1	36
25	An adjoint sensitivity analysis and 4D-Var data assimilation study of Texas air quality. Atmospheric Environment, 2008, 42, 5787-5804.	4.1	35
26	International challenge to predict the impact of radioxenon releases from medical isotope production on a comprehensive nuclear test ban treaty sampling station. Journal of Environmental Radioactivity, 2016, 157, 41-51.	1.7	35
27	Retrieval of Microscale Flow Structures from High-Resolution Doppler Lidar Data Using an Adjoint Model. Journals of the Atmospheric Sciences, 2004, 61, 1500-1520.	1.7	30
28	Using optimal interpolation to assimilate surface measurements and satellite AOD for ozone and PM_{2.5}: A case study for July 2011. Journal of the Air and Waste Management Association, 2015, 65, 1206-1216.	1.9	29
29	Impacts of transported background pollutants on summertime western US air quality: model evaluation, sensitivity analysis and data assimilation. Atmospheric Chemistry and Physics, 2013, 13, 359-391.	4.9	28
30	International challenge to model the long-range transport of radioxenon released from medical isotope production to six Comprehensive Nuclear-Test-Ban Treaty monitoring stations. Journal of Environmental Radioactivity, 2018, 192, 667-686.	1.7	27
31	Impact of Moderate Resolution Imaging Spectroradiometer Aerosol Optical Depth and AirNow PM_{2.5} assimilation on Community Multiâ€scale Air Quality aerosol predictions over the contiguous United States. Journal of Geophysical Research D: Atmospheres, 2017, 122, 5399-5415.	3.3	22
32	High-resolution hybrid inversion of IASI ammonia columns to constrain US ammonia emissions using the CMAQ adjoint model. Atmospheric Chemistry and Physics, 2021, 21, 2067-2082.	4.9	22
33	Singular Vector Analysis for Atmospheric Chemical Transport Models. Monthly Weather Review, 2006, 134, 2443-2465.	1.4	21
34	Differences Between Magnitudes and Health Impacts of BC Emissions Across the United States Using 12 km Scale Seasonal Source Apportionment. Environmental Science & Technology, 2015, 49, 4362-4371.	10.0	20
35	A Conservative Downscaling of Satellite-Detected Chemical Compositions: NO2 Column Densities of OMI, GOME-2, and CMAQ. Remote Sensing, 2018, 10, 1001.	4.0	18
36	Retrieval of Flow Structures in a Convective Boundary Layer Using an Adjoint Model: Identical Twin Experiments. Journals of the Atmospheric Sciences, 2001, 58, 1767-1783.	1.7	17

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37	Computational Aspects of Chemical Data Assimilation into Atmospheric Models. Lecture Notes in Computer Science, 2003, , 269-278.	1.3	17
38	Changes in nitrogen oxides emissions in California during 2005â€“2010 indicated from topâ€down and bottomâ€up emission estimates. Journal of Geophysical Research D: Atmospheres, 2014, 119, 12,928.	3.3	16
39	Improved western U.S. background ozone estimates via constraining nonlocal and local source contributions using Aura TES and OMI observations. Journal of Geophysical Research D: Atmospheres, 2015, 120, 3572-3592.	3.3	15
40	A multiphase CMAQ version 5.0 adjoint. Geoscientific Model Development, 2020, 13, 2925-2944.	3.6	15
41	Premature deaths attributed to source-specific BC emissions in six urban US regions. Environmental Research Letters, 2015, 10, 114014.	5.2	14
42	Inverse modeling of fire emissions constrained by smoke plume transport using HYSPLIT dispersion model and geostationary satellite observations. Atmospheric Chemistry and Physics, 2020, 20, 10259-10277.	4.9	14
43	Improving regional ozone modeling through systematic evaluation of errors using the aircraft observations during the International Consortium for Atmospheric Research on Transport and Transformation. Journal of Geophysical Research, 2007, 112, .	3.3	13
44	Significant wintertime PM_{2.5} mitigation in the Yangtze River Delta, China, from 2016 to 2019: observational constraints on anthropogenic emission controls. Atmospheric Chemistry and Physics, 2020, 20, 14787-14800.	4.9	13
45	Analysis of anthropogenic CO2signal in ICARTT using a regional chemical transport model and observed tracers. Tellus, Series B: Chemical and Physical Meteorology, 2007, 59, 199-210.	1.6	8
46	On the Smoothness Constraints for Four-Dimensional Data Assimilation. Journal of Computational Physics, 2002, 181, 430-453.	3.8	7
47	Weak-constraint inverse modeling using HYSPLIT-4 Lagrangian dispersion model and Cross-Appalachian Tracer Experiment (CAPTEX) observations â€“ effect of including model uncertainties on source term estimation. Geoscientific Model Development, 2018, 11, 5135-5148.	3.6	7
48	Ensembleâ€“Based Data Assimilation for Atmospheric Chemical Transport Models. Lecture Notes in Computer Science, 2005, , 648-655.	1.3	6
49	Ensemble Methods for Dynamic Data Assimilation of Chemical Observations in Atmospheric Models. Journal of Algorithms and Computational Technology, 2011, 5, 667-692.	0.7	6
50	Evaluating oil and gas contributions to ambient nonmethane hydrocarbon mixing ratios and ozone-related metrics in the Colorado Front Range. Atmospheric Environment, 2021, 246, 118113.	4.1	6
51	Estimation of Turbulent Viscosity and Diffusivity in Adjoint Recovery of Atmospheric Boundary Layer Flow Structures. Multiscale Modeling and Simulation, 2003, 1, 196-220.	1.6	5
52	Computational Aspects of Data Assimilation for Aerosol Dynamics. Lecture Notes in Computer Science, 2004, , 709-716.	1.3	5
53	Elucidating emissions control strategies for ozone to protect human health and public welfare within the continental United States. Environmental Research Letters, 2019, 14, 124093.	5.2	5
54	Improving predictability of high-ozone episodes through dynamic boundary conditions, emission refresh and chemical data assimilation during the Long Island Sound Tropospheric Ozone Study (LISTOS) field campaign. Atmospheric Chemistry and Physics, 2021, 21, 16531-16553.	4.9	5

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55	Localized Ensemble Kalman Dynamic Data Assimilation for Atmospheric Chemistry. Lecture Notes in Computer Science, 2007, , 1018-1025.	1.3	3
56	Building and Testing Atmospheric Chemistry Reanalysis Modeling System. Springer Proceedings in Complexity, 2014, , 581-585.	0.3	1
57	Predicting Air Quality: Current Status and Future Directions. NATO Security Through Science Series C: Environmental Security, 2008, , 481-495.	0.1	1
58	Reply to Comment on â€˜Premature deaths attributed to source-specific BC emissions in six urban US regionsâ€™. Environmental Research Letters, 2016, 11, 098002.	5.2	0