

Chapter 8. IMPROVE Bibliography 2010 to Present

Compiled by John G. Watson, Desert Research Institute and Warren White, U.C. Davis

Abbasi, B., Wang, X. L., Chow, J. C., Watson, J. G., Peik, B., Nasiri, V., Riemenschmitter, K. B., and Elahifard, M. (2021), Review of respirable coal mine dust characterization for mass concentration, size distribution and chemical composition, *Minerals*, 11(4), 426, doi:10.3390/min11040426.

Aldhaif, A. M., Lopez, D. H., Dadashazar, H., and Sorooshian, A. (2020), Sources, frequency, and chemical nature of dust events impacting the United States East Coast, *Atmospheric Environment*, 231, doi:10.1016/j.atmosenv.2020.117456.

Ali, K., Panicker, A. S., Beig, G., Srinivas, R., and Acharja, P. (2016), Carbonaceous aerosols over Pune and Hyderabad (India) and influence of meteorological factors, *Journal of Atmospheric Chemistry*, 73(1), 1-27, doi:10.1007/s10874-015-9314-4.

Ancelet, T., Davy, P. K., Trompeter, W. J., Markwitz, A., and Weatherburn, D. C. (2011), Carbonaceous aerosols in an urban tunnel, *Atmospheric Environment*, 45(26), 4463-4469.

Appel, K. W., Pouliot, G. A., Simon, H., Sarwar, G., Pye, H. O. T., Napelenok, S. L., Akhtar, F., and Roselle, S. J. (2013), Evaluation of dust and trace metal estimates from the Community Multiscale Air Quality (CMAQ) model version 5.0, *Geoscientific Model Development*, 6(4), 883-899.

Arora, P., and Jain, S. (2015), Estimation of organic and elemental carbon emitted from wood burning in traditional and improved cookstoves using controlled cooking test, *Environmental Science & Technology*, 49(6), 3958-3965.

Bahadur, R., Feng, Y., Russell, L. M., and Ramanathan, V. (2011), Impact of California's air pollution laws on black carbon and their implications for direct radiative forcing, *Atmospheric Environment*, 45(5), 1162-1167.

Bahadur, R., Feng, Y., Russell, L. M., and Ramanathan, V. (2011), Response to comments on "Impact of California's air pollution laws on black carbon and their implications for direct radiative forcing" by R. Bahadur et al, *Atmospheric Environment*, 45(24), 4119-4121.

Batmunkh, T., Lee, K. Y., Kim, Y. J., Bae, M. S., Maskey, S., and Park, K. (2016), Optical and thermal characteristics of carbonaceous aerosols measured at an urban site in Gwangju, Korea, in the winter of 2011, *Journal of the Air & Waste Management Association*, 66(2), 151-163, doi:10.1080/10962247.2015.1101031.

Bautista, A. T., Pabroa, P. C. B., Santos, F. L., Racho, J. M. D., and Quirit, L. L. (2014), Carbonaceous particulate matter characterization in an urban and a rural site in the Philippines, *Atmospheric Pollution Research*, 5(2), 245-252, <http://www.atmospolres.com/articles/volume5/issue2/apr-14-030.pdf>.

Begum, B. A., and Hopke, P. K. (2013), Identification of haze-creating sources from fine particulate matter in Dhaka aerosol using carbon fractions, *Journal of the Air & Waste Management Association*, 63(9), 1046-1057.

Bell, S. W., Hansell, R. A., Chow, J. C., Tsay, S. C., Wang, S. H., Ji, Q., Li, C., Watson, J. G., and Khlystov, A. Y. (2013), Constraining aerosol optical models using ground-based, collocated

particle size and mass measurements in variable air mass regimes during the 7-SEAS/Dongsha experiment, *Atmospheric Environment*, 78, 163-173, https://www.researchgate.net/publication/235341396_Constraining_aerosol_optical_models_using_ground-based_collocated_particle_size_and_mass_measurements_in_variable_air_mass_regimes_during_the_7-SEASDongsha_experiment.

Bergen, S., Sheppard, L., Sampson, P. D., Kim, S. Y., Richards, M., Vedal, S., Kaufman, J. D., and Szpiro, A. A. (2013), A national prediction model for PM_{2.5} component exposures and measurement error-corrected health effect inference, *Environ. Health Perspect*, 121(9), 1017-1025, <http://ehp.niehs.nih.gov/wp-content/uploads/121/9/ehp.1206010.pdf>.

Berkowitz, C. M., Berg, L. K., Yu, X. Y., Alexander, M. L., Laskin, A., Zaveri, R. A., Jobson, B. T., Andrews, E., and Ogren, J. A. (2011), The influence of fog and air mass history on aerosol optical, physical and chemical properties at Pt. Reyes National Seashore, *Atmospheric Environment*, 45(15), 2559-2568.

Bian, Q. J., Ford, B., Pierce, J. R., and Kreidenweis, S. M. (2020), A decadal climatology of chemical, physical, and optical properties of ambient smoke in the western and southeastern United States, *Journal of Geophysical Research-Atmospheres*, 125(1), doi:10.1029/2019jd031372.

Bladt, H., Ivleva, N. P., and Niessner, R. (2014), Internally mixed multicomponent soot: Impact of different salts on soot structure and thermo-chemical properties, *Journal of Aerosol Science*, 70, 26-35.

Blanchard, C. L., Tanenbaum, S., and Motallebi, N. (2011), Spatial and temporal characterization of PM_{2.5} mass concentrations in California, 1980-2007, *Journal of the Air & Waste Management Association*, 61(3), 339-351.

Blanchard, C. L., Hidy, G. M., Tanenbaum, S., Edgerton, E. S., and Hartsell, B. E. (2013), The Southeastern Aerosol Research and Characterization (SEARCH) study: Spatial variations and chemical climatology, 1999-2010, *Journal of the Air & Waste Management Association*, 63(3), 260-275, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2012.749816>.

Blanchard, C. L., Hidy, G. M., Tanenbaum, S., Edgerton, E. S., and Hartsell, B. E. (2013), The Southeastern Aerosol Research and Characterization (SEARCH) study: Temporal trends in gas and PM concentrations and composition, 1999-2010, *Journal of the Air & Waste Management Association*, 63(3), 247-259, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2012.748523>.

Blanchard, C. L., Tanenbaum, S., and Hidy, G. M. (2014), Spatial and temporal variability of air pollution in Birmingham, Alabama, *Atmospheric Environment*, 89, 382-391.

Blanchard, C. L., Chow, J. C., Edgerton, E. S., Watson, J. G., Hidy, G. M., and Shaw, S. (2014), Organic aerosols in the southeastern United States: Speciated particulate carbon measurements from the SEARCH network, 2006 to 2010, *Atmospheric Environment*, 95, 327-333.

Buchard, V., da Silva, A. M., Randles, C. A., Colarco, P., Ferrare, R., Hair, J., Hostetler, C., Tackett, J., and Winker, D. (2016), Evaluation of the surface PM_{2.5} in Version 1 of the NASA MERRA Aerosol Reanalysis over the United States, *Atmospheric Environment*, 125, 100-111, doi:10.1016/j.atmosenv.2015.11.004.

- Bürki, C., Reggente, M., M. Dillner, A., L. Hand, J., L. Shaw, S., and Takahama, S. (2020), Analysis of functional groups in atmospheric aerosols by infrared spectroscopy: Method development for probabilistic modeling of organic carbon and organic matter concentrations, *Atmospheric Measurement Techniques*, 13(3), 1517-1538, doi:10.5194/amt-13-1517-2020.
- Cao, J. J., Chow, J. C., Tao, J., Lee, S. C., Watson, J. G., Ho, K. F., Wang, G. H., Zhu, C. S., and Han, Y. M. (2011), Stable carbon isotopes in aerosols from Chinese cities: Influence of fossil fuels, *Atmospheric Environment*, 45(6), 1359-1363.
- Cao, J. J., Li, H., Chow, J. C., Watson, J. G., Lee, S. C., Rong, B., Dong, J. G., and Ho, K. F. (2011), Chemical composition of indoor and outdoor atmospheric particles at Emperor Qin's terra-cotta museum, Xi'an, China, *Aerosol and Air Quality Research*, 11(1), 70-79, http://aaqr.org/VOL11_No1_February2011/8_AAQR-10-10-OA-0088_70-79.pdf.
- Cao, J. J., Huang, H., Lee, S. C., Chow, J. C., Zou, C. W., Ho, K. F., and Watson, J. G. (2012), Indoor/outdoor relationships for organic and elemental carbon in PM_{2.5} at residential homes in Guangzhou, China, *Aerosol and Air Quality Research*, 12(5), 902-910, http://aaqr.org/VOL12_No5_October2012/18_AAQR-12-02-OA-0026_902-910.pdf.
- Cao, J. J., Shen, Z. X., Chow, J. C., Lee, S. C., Watson, J. G., Tie, X. X., Ho, K. F., Wang, G. H., and Han, Y. M. (2012), Winter and summer PM_{2.5} chemical compositions in 14 Chinese cities, *Journal of the Air & Waste Management Association*, 62(10), 1214-1226, doi:10.1080/10962247.2012.701193.
- Cao, J. J., Wang, Q. Y., Chow, J. C., Watson, J. G., Tie, X. X., Shen, Z. X., and An, Z. S. (2012), Impacts of aerosol compositions on visibility impairment in Xi'an, China, *Atmospheric Environment*, 59, 559-566, https://www.researchgate.net/publication/263854060_Impacts_of_aerosol_compositions_on_visibility_impairment_in_Xian_China.
- Cao, J. J., Xu, H. M., Xu, Q., Chen, B. H., and Kan, H. D. (2012), Fine particulate matter constituents and cardiopulmonary mortality in a heavily polluted Chinese city, *Environ. Health Perspect*, 120(3), 373-378.
- Cao, J. J., Zhu, C. S., Tie, X. X., Geng, F. H., Xu, H. M., Ho, S. S. H., Wang, G. H., Han, Y. M., and Ho, K. F. (2013), Characteristics and sources of carbonaceous aerosols from Shanghai, China, *Atmospheric Chemistry and Physics*, 13(2), 803-817.
- Carter, T. S., Heald, C. L., Jimenez, J. L., Campuzano-Jost, P., Kondo, Y., Moteki, N., Schwarz, J. P., Wiedinmyer, C., Darmenov, A. S., da Silva, A. M., and Kaiser, J. W. (2020), How emissions uncertainty influences the distribution and radiative impacts of smoke from fires in North America, *Atmospheric Chemistry and Physics*, 20(4), 2073-2097, doi:10.5194/acp-20-2073-2020.
- Castaneda, C. M., Ashbaugh, L. L., and Wakabayashi, P. (2010), Use of proton backscattering to determine the carbon and oxygen content in fine particle samples deposited on PTFE((CF₂)(n)) membrane disk filters, *Journal of Aerosol Science*, 41(1), 99-107.
- Celo, V., Dabek-Zlotorzynska, E., and McCurdy, M. (2015), Chemical characterization of exhaust emissions from selected Canadian marine vessels: The case of trace metals and lanthanoids, *Environmental Science & Technology*, 49(8), 5220-5226.

- Chakrabarty, R. K., Pervez, S., Chow, J. C., Dewangan, S., Robles, J. A., Tian, G. X., and Watson, J. G. (2014), Funeral pyres in south Asia: Large-scale brown carbon emissions and associated warming, *Environmental Science & Technology Letters*, 1(1), 44-48, <http://pubs.acs.org/doi/pdf/10.1021/ez4000669>.
- Chen, D., Zhao, Y., Zhang, J., Yu, H., and Yu, X. N. (2020), Characterization and source apportionment of aerosol light scattering in a typical polluted city in the Yangtze River Delta, China, *Atmospheric Chemistry and Physics*, 20(17), 10193-10210, doi:10.5194/acp-20-10193-2020.
- Chen, L.-W. A., Watson, J. G., Chow, J. C., DuBois, D. W., and Herschberger, L. (2010), Chemical mass balance source apportionment for combined PM_{2.5} measurements from U.S. non-urban and urban long-term networks, *Atmospheric Environment*, 44(38), 4908-4918.
- Chen, L.-W. A., Watson, J. G., Chow, J. C., DuBois, D. W., and Herschberger, L. (2011), PM_{2.5} source apportionment: Reconciling receptor models for U.S. non-urban and urban long-term networks, *Journal of the Air & Waste Management Association*, 61(11), 1204-1217, <http://www.tandfonline.com/doi/pdf/10.1080/10473289.2011.619082>.
- Chen, L.-W. A., Watson, J. G., Chow, J. C., DuBois, D. W., and Herschberger, L. (2012), Chemical mass balance source apportionment for combined PM_{2.5} measurements from U.S. non-urban and urban long-term networks (vol 44, pg 4908, 2010), *Atmospheric Environment*, 51, 335-335.
- Chen, L.-W. A., Watson, J. G., Chow, J. C., Green, M. C., Inouye, D., and Dick, K. (2012), Wintertime particulate pollution episodes in an urban valley of the western U.S.: A case study, *Atmospheric Chemistry and Physics*, 12(21), 10051-10064, <http://www.atmos-chem-phys.net/12/10051/2012/acp-12-10051-2012.pdf>.
- Chen, L.-W. A., Tropp, R. J., Li, W.-W., Zhu, D. Z., Chow, J. C., Watson, J. G., and Zielinska, B. (2012), Aerosol and air toxics exposure in El Paso, Texas: A pilot study, *Aerosol and Air Quality Research*, 12(2), 169-189, http://aaqr.org/VOL12_No2_April2012/3_AAQR-11-10-OA-0169_169-179.pdf.
- Chen, L.-W. A., Chow, J. C., Watson, J. G., and Schichtel, B. A. (2012), Consistency of long-term elemental carbon trends from thermal and optical measurements in the IMPROVE network, *Atmospheric Measurement Techniques*, 5, 2329-2338, <http://www.atmos-meas-tech.net/5/2329/2012/amt-5-2329-2012.pdf>.
- Chen, L.-W. A., Malamakal, T., Wang, X. L., Green, M. C., Chow, J. C., and Watson, J. G. (2014), Evaluation of prescribed burning emissions and impacts on air quality in the Lake Tahoe basin, Desert Research Institute, Reno, NV, http://www.fs.fed.us/psw/partnerships/tahoescience/documents/p076_PrescribedBurningReport_20141231.pdf.
- Chen, L.-W. A., Chow, J. C., Wang, X. L., Robles, J. A., Sumlin, B. J., Lowenthal, D. H., Zimmermann, R., and Watson, J. G. (2015), Multi-wavelength optical measurement to enhance thermal/optical analysis for carbonaceous aerosol, *Atmospheric Measurement Techniques*, 8, 451-461, <http://www.atmos-meas-tech.net/8/451/2015/amt-8-451-2015.html>.
- Chen, L.-W. A., Chow, J. C., Wang, X. L., Cao, J. J., Mao, J. Q., and Watson, J. G. (2021), Brownness of organic aerosol over the United States: Evidence for seasonal biomass burning and

photobleaching effects, *Environmental Science & Technology*, 55(13), 8561-8572, doi:10.1021/acs.est.0c08706.

Chen, X., Day, D., Schichtel, B., Malm, W., Matzoll, A. K., Mojica, J., McDade, C. E., Hardison, E. D., Hardison, D. L., Walters, S., De Water, M. V., and Collett, J. L. (2014), Seasonal ambient ammonia and ammonium concentrations in a pilot IMPROVE NH_x monitoring network in the western United States, *Atmospheric Environment*, 91, 118-126.

Chen, X. C., Zhang, Z. S., Engling, G., Zhang, R. J., Tao, J., Lin, M., Sang, X. F., Chan, C. Y., Li, S. Y., and Li, Y. P. (2014), Characterization of fine particulate black carbon in Guangzhou, a megacity of South China, *Atmospheric Pollution Research*, 5(3), 361-370.

Chen, Y. J., Tian, C. G., Feng, Y. L., Zhi, G. R., Li, J., and Zhang, G. (2015), Measurements of emission factors of PM_{2.5}, OC, EC, and BC for household stoves of coal combustion in China, *Atmospheric Environment*, 109, 190-196.

Chen, Y., Dombek, T., Hand, J., Zhang, Z., Gold, A., Ault, A. P., Levine, K. E., and Surratt, J. D. (2021), Seasonal Contribution of Isoprene-Derived Organosulfates to Total Water-Soluble Fine Particulate Organic Sulfur in the United States, *ACS Earth and Space Chemistry*, 5(9), 2419-2432, doi:10.1021/acsearthspacechem.1c00102.

Cheng, Y., He, K. B., Duan, F. K., Zheng, M., Ma, Y. L., Tan, J. H., and Du, Z. Y. (2010), Improved measurement of carbonaceous aerosol: evaluation of the sampling artifacts and inter-comparison of the thermal-optical analysis methods, *Atmospheric Chemistry and Physics*, 10(17), 8533-8548.

Cheng, Y., Duan, F. K., He, K. B., Zheng, M., Du, Z. Y., Ma, Y. L., and Tan, J. H. (2011), Intercomparison of thermal-optical methods for the determination of organic and elemental carbon: Influences of aerosol composition and implications, *Environmental Science & Technology*, 45(23), 10117-10123.

Cheng, Y. A., He, K. B., Duan, F. K., Zheng, M., Du, Z. Y., Ma, Y. L., and Tan, J. H. (2011), Ambient organic carbon to elemental carbon ratios: Influences of the measurement methods and implications, *Atmospheric Environment*, 45(12), 2060-2066.

Cheng, Y. A., Zhen, M., He, K. B., Chen, Y. J., Yan, B., Russell, A. G., Shi, W. Y., Jiao, Z., Sheng, G. Y., Fu, J. M., and Edgerton, E. S. (2011), Comparison of two thermal-optical methods for the determination of organic carbon and elemental carbon: Results from the southeastern United States, *Atmospheric Environment*, 45(11), 1913-1918.

Cheng, Y., Duan, F. K., He, K. B., Du, Z. Y., Zheng, M., and Ma, Y. L. (2012), Intercomparison of thermal-optical method with different temperature protocols: Implications from source samples and solvent extraction, *Atmospheric Environment*, 61, 453-462.

Cheng, S. Y., Lang, J. L., Zhou, Y., Han, L. H., Wang, G., and Chen, D. S. (2013), A new monitoring-simulation-source apportionment approach for investigating the vehicular emission contribution to the PM_{2.5} pollution in Beijing, China, *Atmospheric Environment*, 79, 308-316.

Cheng, Y., He, K. B., Duan, F. K., Du, Z. Y., Zheng, M., and Ma, Y. L. (2014), Ambient organic carbon to elemental carbon ratios: Influence of the thermal-optical temperature protocol and implications, *Science of the Total Environment*, 468, 1103-1111.

- Cheng, Y., Lee, S. C., Gu, Z. L., Ho, K. F., Zhang, Y. W., Huang, Y., Chow, J. C., Watson, J. G., Cao, J. J., and Zhang, R. J. (2015), PM_{2.5} and PM_{10-2.5} chemical composition and source apportionment near a Hong Kong roadway, *Particuology*, 18, 96-104, <https://www.researchgate.net/publication/259523926> PM_{2.5} and PM_{10-2.5} chemical composition and source apportionment near a Hong Kong roadway.
- Cheng, Y., Chow, J. C., Watson, J. G., Zhou, J. M., Liu, S. X., and Cao, J. J. (2021), Decreasing concentrations of carbonaceous aerosols in China from 2003 to 2013 *Scientific Reports*, 11, 5352, doi:10.1038/s41598-021-84429-w.
- Cheng, Z., Wang, S. X., Fu, X., Watson, J. G., Jiang, J. K., Fu, Q. Y., Chen, C. H., Xu, B. Y., Yu, J. S., Chow, J. C., and Hao, J. M. (2014), Impact of biomass burning on haze pollution in the Yangtze River Delta, China: A case study of summer in 2011, *Atmospheric Chemistry and Physics*, 14, 4573-4585, <http://www.atmos-chem-phys.net/14/4573/2014/acp-14-4573-2014.html>.
- Chow, J. C., Wang, X. L., Kohl, S. D., Gronstal, S. B., and Watson, J. G. (2010), Heavy-duty diesel emissions in the Athabasca Oil Sands Region, in *Proceedings, 103rd Annual Meeting of the Air & Waste Management Association*, edited by R. J. Tropp and A. H. Legge, pp. 1-5, Air & Waste Management Association, Pittsburgh, PA.
- Chow, J. C., Watson, J. G., Chen, L.-W. A., Rice, J., and Frank, N. H. (2010), Quantification of PM_{2.5} organic carbon sampling artifacts in US networks, *Atmospheric Chemistry and Physics*, 10(12), 5223-5239, <http://www.atmos-chem-phys.net/10/5223/2010/acp-10-5223-2010.pdf>.
- Chow, J. C., Watson, J. G., Green, M. C., and Frank, N. H. (2010), Filter light attenuation as a surrogate for elemental carbon, *Journal of the Air & Waste Management Association*, 60(11), 1365-1375, <http://www.tandfonline.com/doi/pdf/10.3155/1047-3289.60.11.1365>.
- Chow, J. C., Watson, J. G., Lowenthal, D. H., Chen, L.-W. A., and Motallebi, N. (2010), Black and organic carbon emission inventories: Review and application to California, *Journal of the Air & Waste Management Association*, 60(4), 497-507, <http://www.tandfonline.com/doi/pdf/10.3155/1047-3289.60.4.497>.
- Chow, J. C., Watson, J. G., Robles, J., Wang, X. L., Chen, L.-W. A., Trimble, D. L., Kohl, S. D., Tropp, R. J., and Fung, K. K. (2011), Quality assurance and quality control for thermal/optical analysis of aerosol samples for organic and elemental carbon, *Analytical and Bioanalytical Chemistry*, 401(10), 3141-3152, doi:10.1007/s00216-011-5103-3.
- Chow, J. C., Watson, J. G., Chen, L.-W. A., Lowenthal, D. H., and Motallebi, N. (2011), PM_{2.5} source profiles for black and organic carbon emission inventories, *Atmospheric Environment*, 45(31), 5407-5414, <https://www.researchgate.net/publication/232410705> PM_{2.5} source profiles for black and organic carbon emission inventories.
- Chow, J. C., Lowenthal, D. H., Watson, J. G., and Chen, L.-W. A. (2013), Source apportionment of SEARCH PM_{2.5} measurements with organic markers, Desert Research Institute, Reno, NV.
- Chow, J. C., and Watson, J. G. (2013), Chemical analyses of particle filter deposits, in *Aerosols Handbook : Measurement, Dosimetry, and Health Effects*, edited by L. Ruzer and N. H. Harley, pp. 179-204, CRC Press/Taylor & Francis, New York, NY,

https://www.researchgate.net/publication/235341535_Chemical_Analyses_of_Particle_Filter_Deposits.

Chow, J. C., Lowenthal, D. H., Chen, L.-W. A., Wang, X. L., and Watson, J. G. (2015), Mass reconstruction methods for PM_{2.5}: A review, *Air Quality, Atmosphere, and Health*, 8, 243-263, <http://link.springer.com/article/10.1007%2Fs11869-015-0338-3#page-1>.

Chow, J. C., Wang, X. L., Sunlin, B. J., Gronstal, S. B., Chen, L.-W. A., Trimble, D. L., Kohl, S. D., Mayorga, S. R., Riggio, G. M., Hurbain, P. R., Johnson, M., Zimmermann, R., and Watson, J. G. (2015), Optical calibration and equivalence of a multiwavelength thermal/optical carbon analyzer, *Aerosol and Air Quality Research*, 15(4), 1145-1159, doi:10.4209/aaqr.2015.02.0106.

Chow, J. C., Yang, X. F., Wang, X. L., Kohl, S. D., and Watson, J. G. (2015), Characterization of ambient PM₁₀ bioaerosols in a California agricultural town, *Aerosol and Air Quality Research*, 15(4), 1433-1447, <http://www.aaqr.org/article/detail/AAQR-14-12-OA-0313>.

Chow, J. C., Watson, J. G., Green, M. C., Wang, X. L., Chen, L.-W. A., Trimble, D. L., Cropper, P. M., Kohl, S. D., and Gronstal, S. B. (2018), Separation of brown carbon from black carbon for IMPROVE and CSN PM_{2.5} samples, *Journal of the Air & Waste Management Association*, 68(5), 494-510.

Chow, J. C., Chen, L.-W. A., Wang, X. L., Green, M. C., and Watson, J. G. (2021), Improved estimation of PM_{2.5} brown carbon contributions to filter light attenuation, *Particuology*, 56, 1-9, doi:10.1016/j.partic.2021.01.001.

Christiansen, A. E., Carlton, A. G., and Henderson, B. H. (2020), Differences in fine particle chemical composition on clear and cloudy days, *Atmospheric Chemistry and Physics*, 20(19), 11607-11624, doi:10.5194/acp-20-11607-2020.

Christiansen, A. E., Carlton, A. G., and Porter, W. C. (2020), Changing nature of organic carbon over the United States, *Environmental Science and Technology*, 54(17), 10524-10532, doi:10.1021/acs.est.0c02225.

Chuang, M. T., Chang, S. C., Lin, N. H., Wang, J. L., Sheu, G. R., Chang, Y. J., and Lee, C. T. (2013), Aerosol chemical properties and related pollutants measured in Dongsha Island in the northern South China Sea during 7-SEAS/Dongsha Experiment, *Atmospheric Environment*, 78, 82-92.

Chuang, M. T., Lee, C. T., Chou, C. C. K., Lin, N. H., Sheu, G. R., Wang, J. L., Chang, S. C., Wang, S. H., Chi, K. H., Young, C. Y., Huang, H., Chen, H. W., Weng, G. H., Lai, S. Y., Hsu, S. P., Chang, Y. J., Chang, J. H., and Wu, X. C. (2014), Carbonaceous aerosols in the air masses transported from Indochina to Taiwan: Long-term observation at Mt. Lulin, *Atmospheric Environment*, 89, 507-516.

Collaud-Coen, M. C., Andrews, E., Asmi, A., Baltensperger, U., Bukowiecki, N., Day, D., Fiebig, M., Fjaeraa, A. M., Flentje, H., Hyvarinen, A., Jefferson, A., Jennings, S. G., Kouvarakis, G., Lihavainen, H., Myhre, C. L., Malm, W. C., Mihapopoulos, N., Molenaar, J. V., O'Dowd, C., Ogren, J. A., Schichtel, B. A., Sheridan, P., Virkkula, A., Weingartner, E., Weller, R., and Laj, P. (2013), Aerosol decadal trends - Part 1: In-situ optical measurements at GAW and IMPROVE stations, *Atmospheric Chemistry and Physics*, 13(2), 869-894.

Creamean, J. M., Spackman, J. R., Davis, S. M., and White, A. B. (2014), Climatology of long-range transported Asian dust along the West Coast of the United States, *Journal of Geophysical Research-Atmospheres*, 119(21), 12171-12185.

Dabek-Zlotorzynska, E., Dann, T. F., Martinelango, P. K., Celo, V., Brook, J. R., Mathieu, D., Ding, L. Y., and Austin, C. C. (2011), Canadian National Air Pollution Surveillance (NAPS) PM_{2.5} speciation program: Methodology and PM_{2.5} chemical composition for the years 2003-2008, *Atmospheric Environment*, 45(3), 673-686.

Das, K. K., Bancroft, L., Wang, X. L., Chow, J. C., Xing, B. S., and Yang, Y. (2018), Digestion coupled with programmed thermal analysis for quantification of multiwall carbon nanotubes in plant tissues, *Environmental Science & Technology Letters*, 5(7), 442-447, doi:10.1021/acs.estlett.8b00287.

Debus, B., S. Takahama, A. T. Weakley, K. Seibert, and A. M. Dillner (2019), Long-Term Strategy for Assessing Carbonaceous Particulate Matter Concentrations from Multiple Fourier Transform Infrared (FT-IR) Instruments: Influence of Spectral Dissimilarities on Multivariate Calibration Performance, *Applied Spectroscopy*, 73(3), 271-283, doi:https://opg.optica.org/as/abstract.cfm?URI=as-73-3-271.

Deng, X. J., Wu, D., Yu, J. Z., Lau, A. K. H., Li, F., Tan, H. B., Yuan, Z. B., Ng, W. M., Deng, T., Wu, C., and Zhou, X. J. (2013), Characterization of secondary aerosol and its extinction effects on visibility over the Pearl River Delta Region, China, *Journal of the Air & Waste Management Association*, 63(9), 1012-1021, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2013.782927>.

Diab, J., Streibel, T., Cavalli, F., Lee.S.C., Saathoff, H., Mamakos, T., Chow, J. C., Chen, L.-W. A., Watson, J. G., Sippula, O., and Zimmermann, R. (2015), Hyphenation of a EC/OC thermal-optical carbon analyzer to photo ionization time-of-flight mass spectrometry: A new off-line aerosol mass spectrometric approach for characterization of primary and secondary particulate matter, *Atmospheric Measurement Techniques*, 8, 3337-3353, <http://www.atmos-meas-tech.net/8/3337/2015/amt-8-3337-2015.pdf>.

Diaz-Robles, L. A., Moncada-Herrera, J., Etcharren, P., Araneda, N., Perez, I., and Schiappacasse P., N. (2010), Source apportionment of PM_{2.5} in Temuco, Chile, using factor analysis and IMPROVE sampling. A seasonal analysis, in *Proceedings, Leapfrogging Opportunities for Air Quality Improvement*, edited by J. C. Chow, J. G. Watson and J. J. Cao, pp. 845-852, Air & Waste Management Association, Pittsburgh, PA.

Dillner, A. M., and Takahama, S. (2015), Predicting ambient aerosol thermal-optical reflectance (TOR) measurements from infrared spectra: Organic carbon, *Atmospheric Measurement Techniques*, 8(3), 1097-1109, <http://www.atmos-meas-tech.net/8/1097/2015/amt-8-1097-2015.pdf>.

Draxler, R. R., Ginoux, P., and Stein, A. F. (2010), An empirically derived emission algorithm for wind-blown dust, *Journal of Geophysical Research-Atmospheres*, 115.

DRI (2012), SOP 2-216r3: DRI Model 2001 thermal/optical carbon analysis (TOR/TOT) of aerosol filter samples - Method IMPROVE_A, Desert Research Institute, Reno, NV, http://www.epa.gov/ttn/amtic/files/ambient/pm25/spec/DRI_SOPforIMPROVEAFINAL.pdf.

- Drury, E., Jacob, D. J., Spurr, R. J. D., Wang, J., Shinozuka, Y., Anderson, B. E., Clarke, A. D., Dibb, J., McNaughton, C., and Weber, R. (2010), Synthesis of satellite (MODIS), aircraft (ICARTT), and surface (IMPROVE, EPA-AQS, AERONET) aerosol observations over eastern North America to improve MODIS aerosol retrievals and constrain surface aerosol concentrations and sources, *Journal of Geophysical Research-Atmospheres*, 115.
- Du, Y. Y., Chen, J., Zhang, J. L., Gan, G. C., Liu, Y. C., Su, M. X., Lou, S. R., Zhou, M., Tao, S. K., and Qiao, L. P. (2020), Observation of aerosol optical properties and new particle formation in the Yangtze River Delta, *Huanjing Kexue/Environmental Science*, 41(9), 3932-3940, doi:10.13227/j.hjlx.201911271.
- Eklund, A. G., Chow, J. C., Greenbaum, D. S., Hidy, G. M., Kleinman, M. T., Watson, J. G., and Wyzga, R. E. (2014), Public health and components of particulate matter: The changing assessment of black carbon-Critical review discussion, *Journal of the Air & Waste Management Association*, 64(11), 1221-1231, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2014.913954>.
- Farina, S. C., Adams, P. J., and Pandis, S. N. (2010), Modeling global secondary organic aerosol formation and processing with the volatility basis set: Implications for anthropogenic secondary organic aerosol, *Journal of Geophysical Research-Atmospheres*, 115.
- Ford, B., and Heald, C. L. (2013), Aerosol loading in the Southeastern United States: reconciling surface and satellite observations, *Atmospheric Chemistry and Physics*, 13(18), 9269-9283.
- Fujii, Y., Iriana, W., Oda, M., Puriwigati, A., Tohno, S., Lestari, P., Mizohata, A., and Huboyo, H. S. (2014), Characteristics of carbonaceous aerosols emitted from peatland fire in Riau, Sumatra, Indonesia, *Atmospheric Environment*, 87, 164-169, doi:10.1016/j.atmosenv.2014.01.037.
- Fujii, Y., Mahmud, M., Oda, M., Tohno, S., Matsumoto, J., and Mizohata, A. (2016), A key indicator of transboundary particulate matter pollution derived from Indonesian peatland fires in Malaysia, *Aerosol and Air Quality Research*, 16(1), 69-78, doi:10.4209/aaqr.2015.04.0215.
- Fujita, E. M., Campbell, D. E., Zielinska, B., Chow, J. C., Lindhjem, C. E., DenBleyker, A., Bishop, G. A., Schuchmann, B. G., Stedman, D. H., and Lawson, D. R. (2012), Comparison of the MOVES2010a, MOBILE6.2 and EMFAC2007 mobile source emissions models with on-road traffic tunnel and remote sensing measurements, *Journal of the Air & Waste Management Association*, 62(10), 1134-1149, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2012.699016>.
- Gan, C. M., Pleim, J., Mathur, R., Hogrefe, C., Long, C. N., Xing, J., Roselle, S., and Wei, C. (2014), Assessment of the effect of air pollution controls on trends in shortwave radiation over the United States from 1995 through 2010 from multiple observation networks, *Atmospheric Chemistry and Physics*, 14(3), 1701-1715.
- Gan, T. H., Hanhela, P., Mazurek, W., and Gillett, R. (2010), Characteristics of submarine engine diesel particulates in the maritime environment, *Journal of Aerosol Science*, 41(1), 23-35.
- Gantt, B., Beaver, M., Timin, B., and Lorang, P. (2018), Recommended metric for tracking visibility progress in the Regional Haze Rule, *Journal of the Air & Waste Management Association*, 68(5), 438-445, doi: 10.1080/10962247.2018.1424058.

- Gantt, B., McDonald, K., Henderson, B., and Mannshardt, E. (2020), Incorporation of remote PM_{2.5} concentrations into the downscaler model for spatially fused air quality surfaces, *Atmosphere*, 11(1), doi:10.3390/ATMOS11010103.
- Gargava, P., Chow, J. C., Watson, J. G., and Lowenthal, D. H. (2014), Speciated PM₁₀ emission inventory for Delhi, India, *Aerosol and Air Quality Research*, 14(5), 1515-1526, http://www.aaqr.org/files/article/720/18_AAQR-13-02-OA-0047_1515-1526.pdf.
- Gebhart, K. A., Schichtel, B. A., Malm, W. C., Barna, M. G., Rodriguez, M. A., and Collett, J. L., Jr. (2011), Back-trajectory-based source apportionment of airborne sulfur and nitrogen concentrations at Rocky Mountain National Park, Colorado, USA, *Atmospheric Environment*, 45(3), 621-633.
- Gebhart, K. A., Day, D. E., Prenni, A. J., Schichtel, B. A., Hand, J. L., and Evanski-Cole, A. R. (2018), Visibility impacts at Class I areas near the Bakken oil and gas development, *Journal of the Air & Waste Management Association*, 68(5), 477-493, doi:10.1080/10962247.2018.1429334.
- Gebhart, K. A., Farber, R. J., Hand, J. L., Eatough, D. J., Schichtel, B. A., Vimont, J. C., Green, M. C., and Malm, W. C. (2021), Long-term trends in particulate sulfate at the Grand Canyon National Park, *Atmospheric Environment*, 253, 118339, <https://doi.org/10.1016/j.atmosenv.2021.118339>.
- Geiser, L. H., Jovan, S. E., Glavich, D. A., and Porter, M. K. (2010), Lichen-based critical loads for atmospheric nitrogen deposition in Western Oregon and Washington Forests, USA, *Environ. Poll.*, 158(7), 2412-2421.
- Gilardoni, S., Vignati, E., and Wilson, J. (2011), Using measurements for evaluation of black carbon modeling, *Atmospheric Chemistry and Physics*, 11(2), 439-455, <http://www.atmos-chem-phys.net/11/439/2011/acp-11-439-2011.pdf>.
- Ginzburg, H., Liu, X. B., Baker, M., Shreeve, R., Jayanty, R. K. M., Campbell, D., and Zielinska, B. (2015), Monitoring study of the near-road PM_{2.5} concentrations in Maryland, *Journal of the Air & Waste Management Association*, 65(9), 1062-1071, doi:10.1080/10962247.2015.1056887.
- Gong, W. M., Stroud, C., and Zhang, L. M. (2011), Cloud processing of gases and aerosols in air quality modeling, *Atmosphere*, 2(4), 567-616, <http://www.mdpi.com/2073-4433/2/4/567>.
- Gonzalez, M. E., Garfield, J. G., Corral, A. F., Edwards, E. L., Zeider, K., and Sorooshian, A. (2021), Extreme aerosol events at Mesa Verde, Colorado: Implications for air quality management, *Atmosphere*, 12(9), doi:10.3390/atmos12091140.
- Gordon, T. D., Prenni, A. J., Renfro, J. R., McClure, E., Hicks, B., Onasch, T. B., Freedman, A., McMeeking, G. R., and Chen, P. (2018), Open-path, closed-path, and reconstructed aerosol extinction at a rural site, *Journal of the Air & Waste Management Association*, 68(8), 824-835, doi:10.1080/10962247.2018.1452801.
- Gorham, K. A., Raffuse, S. M., Hyslop, N. P., and White, W. H. (2021), Comparison of recent speciated PM_{2.5} data from collocated CSN and IMPROVE measurements, *Atmospheric Environment*, 244, doi:10.1016/j.atmosenv.2020.117977.

- Grabowsky, J., Streibel, T., Sklorz, M., Chow, J. C., Mamakos, A., and Zimmermann, R. (2011), Hyphenation of a carbon analyzer to photo-ionization mass spectrometry to unravel the organic composition of particulate matter on a molecular level, *Analytical and Bioanalytical Chemistry*, 401(10), 3153-3164.
- Green, M. C., Chen, L.-W. A., DuBois, D. W., and Molenaar, J. V. (2012), Fine particulate matter and visibility in the Lake Tahoe Basin: Chemical characterization, trends, and source apportionment, *Journal of the Air & Waste Management Association*, 62(8), 953-965.
- Green, M. C., Chow, J. C., Chang, M.-C. O., Chen, L.-W. A., Kuhns, H. D., Etyemezian, V. R., and Watson, J. G. (2013), Source apportionment of atmospheric particulate carbon in Las Vegas, Nevada, USA, *Particuology*, 11, 110-118, doi:https://www.researchgate.net/publication/235341593_Source_apportionment_of_atmospheric_particulate_carbon_in_Las_Vegas_Nevada_USA.
- Green, M. C., Chow, J. C., Watson, J. G., Dick, K., and Inouye, D. (2015), Effects of snow cover and atmospheric stability on winter PM_{2.5} concentrations in western US valleys, *Journal of Applied Meteorology and Climatology*, 54, 1191-1201, doi:dx.doi.org/10.1175/JAMC-D-14-0191.1.
- Gu, J. X., Bai, Z. P., Liu, A. X., Wu, L. P., Xie, Y. Y., Li, W. F., Dong, H. Y., and Zhang, X. (2010), Characterization of atmospheric organic carbon and element carbon of PM_{2.5} and PM₁₀ at Tianjin, China, *Aerosol and Air Quality Research*, 10(2), 167-176.
- Gu, J. X., Bai, Z. P., Li, W. F., Wu, L. P., Liu, A. X., Dong, H. Y., and Xie, Y. Y. (2011), Chemical composition of PM_{2.5} during winter in Tianjin, China, *Particuology*, 9(3), 215-221.
- Gu, J. X., Du, S. Y., Han, D. W., Hou, L. J., Yi, J., Xu, J., Liu, G. H., Han, B., Yang, G. W., and Bai, Z. P. (2014), Major chemical compositions, possible sources, and mass closure analysis of PM_{2.5} in Jinan, China, *Air Quality, Atmosphere & Health*, 7(3), 251-262.
- Guerrette, J. J., and Henze, D. K. (2017), Four-dimensional variational inversion of black carbon emissions during ARCTAS-CARB with WRFDA-Chem, *Atmospheric Chemistry and Physics*, 17(12), 7605-7633, doi:10.5194/acp-17-7605-2017.
- Guo, L., Cui, Y., He, Q., Gao, W., Pei, K., Zhu, L., Li, H., and Wang, X. (2021), Contributions of aerosol chemical composition and sources to light extinction during haze and non-haze days in Taiyuan, China, *Atmospheric Pollution Research*, 12(8), doi:10.1016/j.apr.2021.101140.
- Gutknecht, W., Flanagan, J., McWilliams, A., Jayanty, R. K. M., Kellogg, R., Rice, J., Duda, P., and Sarver, R. H. (2010), Harmonization of uncertainties of x-ray fluorescence data for PM_{2.5} air filter analysis, *Journal of the Air & Waste Management Association*, 60(2), 184-194.
- Hadley, O. L. (2017), Background PM_{2.5} source apportionment in the remote Northwestern United States, *Atmospheric Environment*, 167, 298-308, doi:10.1016/j.atmosenv.2017.08.030.
- Hallar, A. G., Lowenthal, D. H., Clegg, S. L., Samburova, V., Taylor, N., Mazzoleni, L. R., Zielinska, B. K., Kristensen, T. B., Chirokova, G., McCubbin, I. B., Dodson, C., and Collins, D. (2013), Chemical and hygroscopic properties of aerosol organics at Storm Peak Laboratory, *Journal of Geophysical Research-Atmospheres*, 118(10), 4767-4779.
- Hallar, A. G., Molotch, N. P., Hand, J. L., Livneh, B., McCubbin, I. B., Petersen, R., Michalsky, J., Lowenthal, D., and Kunkel, K. E. (2017), Impacts of increasing aridity and wildfires on

aerosol loading in the intermountain Western US, *Environmental Research Letters*, 12, doi:10.1088/1748-9326/aa510a.

Han, Y. M., Cao, J. J., Lee, S. C., Ho, K. F., and An, Z. S. (2010), Different characteristics of char and soot in the atmosphere and their ratio as an indicator for source identification in Xi'an, China, *Atmospheric Chemistry and Physics*, 10(2), 595-607.

Han, Y. M., Cao, J. J., Yan, B. Z., Kenna, T. C., Jin, Z. D., Cheng, Y., Chow, J. C., and An, Z. S. (2011), Comparison of elemental carbon in lake sediments measured by three different methods and 150-year pollution history in eastern China, *Environmental Science & Technology*, 45(12), 5287-5293.

Han, Y. M., Marlon, J. R., Cao, J. J., Jin, Z. D., and An, Z. S. (2012), Holocene linkages between char, soot, biomass burning and climate from Lake Daihai, China, *Global Biogeochemical Cycles*, 26.

Han, Y., Chen, A., Cao, J., Fung, K., Ho, F., Yan, B., Zhan, C., Liu, S., Wei, C., and An, Z. (2013), Thermal/optical methods for elemental carbon quantification in soils and urban dusts: Equivalence of different analysis protocols, *PLoS ONE*, 8(12), doi:10.1371/journal.pone.0083462.

Han, Y. M., Chen, L.-W. A., Cao, J. J., Fung, K. K., Ho, K. F., Yan, B. Z., Zhan, C. L., Liu, S. X., Wei, and An, Z. H. (2013), Thermal/optical methods for elemental carbon quantification in soils and urban dusts: Equivalence of different analysis protocols, *Plos One*, 8(12), e83462.

Han, Y. M., Bandowe, B. A. M., Wei, C., Cao, J. J., Wilcke, W., Wang, G. H., Ni, H. Y., Jin, Z. D., An, Z. S., and Yan, B. Z. (2015), Stronger association of polycyclic aromatic hydrocarbons with soot than with char in soils and sediments, *Chemosphere*, 119, 1335-1345.

Han, Y. M., Chen, L.-W. A., Huang, R. J., Chow, J. C., Watson, J. G., Ni, H. Y., Liu, S. X., Fung, K. K., Shen, Z. X., Wei, C., Wang, Q. Y., Tian, J., Zhao, Z. Z., Prevot, A. S. H., and Cao, J. J. (2016), Carbonaceous aerosols in megacity Xi'an, China: Implications of thermal/optical protocols comparison, *Atmospheric Environment*, 132, 58-68.

Hand, J. L., Copeland, S. A., McDade, C. E., Day, D. E., Moore, J., C.T., Dillner, A. M., Pitchford, M. L., Indresand, H., Schichtel, B. A., Malm, W. C., and Watson, J. G. (2011), Spatial and seasonal patterns and temporal variability of haze and its constituents in the United States, IMPROVE Report V, Cooperative Institute for Research in the Atmosphere, Fort Collins, CO, <http://vista.cira.colostate.edu/Improve/spatial-and-seasonal-patterns-and-temporal-variability-of-haze-and-its-constituents-in-the-united-states-report-v-june-2011/>.

Hand, J. L., Gebhart, K. A., Schichtel, B. A., and Malm, W. C. (2012), Increasing trends in wintertime particulate sulfate and nitrate ion concentrations in the Great Plains of the United States (2000-2010), *Atmospheric Environment*, 55, 107-110.

Hand, J. L., Schichtel, B. A., Malm, W. C., and Pitchford, M. L. (2012), Particulate sulfate ion concentration and SO₂ emission trends in the United States from the early 1990s through 2010, *Atmospheric Chemistry and Physics*, 12(21), 10353-10365.

Hand, J. L., Schichtel, B. A., Pitchford, M. L., Malm, W. C., and Frank, N. H. (2012), Seasonal composition of remote and urban fine particulate matter in the United States, *Journal of Geophysical Research-Atmospheres*, 117.

- Hand, J. L., Schichtel, B. A., Malm, W. C., and Frank, N. H. (2013), Spatial and temporal trends in PM_{2.5} organic and elemental carbon across the United States, *Advances in Meteorology*, 2013, 1-13, doi:10.1155/2013/367674.
- Hand, J. L., Schichtel, B. A., Malm, W. C., Pitchford, M. L., and Frank, N. H. (2014), Spatial and seasonal patterns in urban influence on regional concentrations of speciated aerosols across the United States, *Journal of Geophysical Research-Atmospheres*, 119(22), 12832-12849.
- Hand, J. L., Schichtel, B. A., Malm, W. C., Copeland, S., Molenaar, J. V., Frank, N. H., and Pitchford, M. L. (2014), Widespread reductions in haze across the United States from the early 1990s through 2011, *Atmospheric Environment*, 94, 671-679.
- Hand, J. L., White, W. H., Gebhart, K. A., Hyslop, N. P., Gill, T. E., and Schichtel, B. A. (2016), Earlier onset of the spring fine dust season in the southwestern United States, *Geophysical Research Letters*, 43(8), 4001-4009, doi:10.1002/2016gl068519.
- Hand, J. L., Gill, T. E., and Schichtel, B. A. (2017), Spatial and seasonal variability in fine mineral dust and coarse aerosol mass at remote sites across the United States, *Journal of Geophysical Research-Atmospheres*, 122(5), 3080-3097, doi:10.1002/2016jd026290.
- Hand, J. L., Gill, T. E., and Schichtel, B. A. (2019), Urban and rural coarse aerosol mass across the United States: Spatial and seasonal variability and long-term trends, *Atmospheric Environment*, 218, doi:10.1016/j.atmosenv.2019.117025.
- Hand, J. L., Prenni, A. J., Schichtel, B. A., Malm, W. C., and Chow, J. C. (2019), Trends in remote PM_{2.5} residual mass across the United States: Implications for aerosol mass reconstruction in the IMPROVE network, *Atmospheric Environment*, 203, 141-152, doi:10.1016/j.atmosenv.2019.01.049.
- Hand, J. L., Prenni, A. J., Copeland, S., Schichtel, B. A., and Malm, W. C. (2020), Thirty years of the Clean Air Act Amendments: Impacts on haze in remote regions of the United States (1990-2018), *Atmospheric Environment*, 243, doi:10.1016/j.atmosenv.2020.117865.
- Heald, C. L., Collett, J. L., Lee, T., Benedict, K. B., Schwandner, F. M., Li, Y., Clarisse, L., Hurtmans, D. R., Van Damme, M., Clerbaux, C., Coheur, P. F., Philip, S., Martin, R. V., and Pye, H. O. T. (2012), Atmospheric ammonia and particulate inorganic nitrogen over the United States, *Atmospheric Chemistry and Physics*, 12(21), 10295-10312.
- Ho, K. F., Zhang, R. J., Lee, S. C., Ho, S. S. H., Liu, S. X., Fung, K., Cao, J. J., Shen, Z. X., and Xu, H. M. (2011), Characteristics of carbonate carbon in PM_{2.5} in a typical semi-arid area of Northeastern China, *Atmospheric Environment*, 45(6), 1268-1274.
- Ho, S. S. H., Ho, K. F., Liu, S. X., Liu, W. D., Lee, S. C., Fung, K. K., Cao, J. J., Zhang, R. J., Huang, Y., Feng, N. S. Y., and Cheng, Y. (2012), Quantification of carbonate carbon in aerosol filter samples using a modified thermal/optical carbon analyzer (M-TOCA), *Analytical Methods*, 4(8), 2578-2584.
- Holden, A. S., Sullivan, A. P., Munchak, L. A., Kreidenweis, S. M., Schichtel, B. A., Malm, W. C., and Collett, J. L., Jr. (2011), Determining contributions of biomass burning and other sources to fine particle contemporary carbon in the western United States, *Atmospheric Environment*, 45(11), 1986-1993.

- Hu, Y., Balachandran, S., Pachon, J. E., Baek, J., Ivey, C., Holmes, H., Odman, M. T., Mulholland, J. A., and Russell, A. G. (2014), Fine particulate matter source apportionment using a hybrid chemical transport and receptor model approach, *Atmospheric Chemistry and Physics*, 14(11), 5415-5431, doi:<http://www.atmos-chem-phys.net/14/5415/2014/>.
- Hua, Y., Cheng, Z., Wang, S. X., Jiang, J. K., Chen, D. R., Cai, S. Y., Fu, X., Fu, Q. Y., Chen, C. H., Xu, B. Y., and Yu, J. Q. (2015), Characteristics and source apportionment of PM_{2.5} during a fall heavy haze episode in the Yangtze River Delta of China, *Atmospheric Environment*, 123, 380-391, doi:10.1016/j.atmosenv.2015.03.046.
- Huang, H., Zou, C. W., Cao, J. J., and Tsang, P. (2011), Carbonaceous aerosol characteristics in outdoor and indoor environments of Nanchang, China, during summer 2009, *Journal of the Air & Waste Management Association*, 61(11), 1262-1272.
- Huang, M., Tong, D., Lee, P., Pan, L., Tang, Y., Stajner, I., Pierce, R. B., McQueen, J., and Wang, J. (2015), Toward enhanced capability for detecting and predicting dust events in the western United States: the Arizona case study, *Atmospheric Chemistry and Physics*, 15(21), 12595-12610, doi:10.5194/acp-15-12595-2015.
- Hyslop, N. P., and White, W. H. (2011), Identifying sources of uncertainty from the inter-species covariance of measurement errors, *Environmental Science & Technology*, 45(9), 4030-4037.
- Hyslop, N. P., Trzepla, K., and White, W. H. (2012), Reanalysis of archived IMPROVE PM_{2.5} samples previously analyzed over a 15-year period, *Environmental Science & Technology*, 46(18), 10106-10113.
- Hyslop, N., K. Trzepla, C. Wallis, A. Matzoll, and W. White (2013), A 23-year record of twice-weekly aerosol composition measurements at Mauna Loa Observatory, *Atmospheric Environment*, 80, 259-263, doi:<http://dx.doi.org/10.1016/j.atmosenv.2013.07.038>.
- Hyslop, N. P., Trzepla, K., and White, W. H. (2015), Assessing the suitability of historical PM_{2.5} element measurements for trend analysis, *Environmental Science & Technology*, 49(15), 9247-9255, doi:10.1021/acs.est.5b01572.
- Hyslop, N. P., et al. (2019), An inter-laboratory evaluation of new multi-element reference materials for atmospheric particulate matter measurements, *Aerosol Science and Technology*, 53(7), 771-782, doi:10.1080/02786826.2019.1606413.
- Hyslop, N. P., Y. Liu, S. Yarkin, and K. Trzepla (2022), Application of the U.S. EPA procedure for determining method detection limits to EDXRF measurement of filter-based aerosol samples, *Journal of the Air & Waste Management Association*, 72(8), 905-913, doi:10.1080/10962247.2022.2064005.
- Indresand, H., and Dillner, A. M. (2012), Experimental characterization of sulfur interference in IMPROVE aluminum and silicon XRF data, *Atmospheric Environment*, 61, 140-147.
- Indresand, H., White, W. H., Trzepla, K., and Dillner, A. M. (2013), Preparation of sulfur reference materials that reproduce atmospheric particulate matter sample characteristics for XRF calibration, *X-Ray Spectrometry*, 42(5), 359-367.
- Jain, S., Sharma, S. K., Choudhary, N., Masiwal, R., Saxena, M., Sharma, A., Mandal, T. K., Gupta, A., Gupta, N. C., and Sharma, C. (2017), Chemical characteristics and source apportionment of PM_{2.5} using PCA/APCS, UNMIX, and PMF at an urban site of Delhi, India,

Environmental Science and Pollution Research, 24(17), 14637-14656, doi:10.1007/s11356-017-8925-5.

Jathar, S. H., Farina, S. C., Robinson, A. L., and Adams, P. J. (2011), The influence of semi-volatile and reactive primary emissions on the abundance and properties of global organic aerosol, *Atmospheric Chemistry and Physics*, 11(15), 7727-7746, <http://www.atmos-chem-phys.net/11/7727/2011/acp-11-7727-2011.pdf>.

Jeong, C. H., Herod, D., Dabek-Zlotorzynska, E., Ding, L. Y., McGuire, M. L., and Evans, G. (2013), Identification of the sources and geographic origins of black carbon using factor analysis at paired rural and urban sites, *Environmental Science & Technology*, 47(15), 8462-8470.

Jeronimo, M., Q. Stewart, A. T. Weakley, J. Giacomo, X. Zhang, N. Hyslop, A. M. Dillner, M. Shupler, and M. Brauer (2020), Analysis of black carbon on filters by image-based reflectance, *Atmospheric Environment*, 223, 117300, doi:<https://doi.org/10.1016/j.atmosenv.2020.117300>.

Jiang, L., Zhang, Z. F., Zhu, B., Shen, Y., Wang, H. L., Shi, S. S., and Sha, D. D. (2018), Comparison of parameterizations for the atmospheric extinction coefficient in Lin'an, China, *Science of the Total Environment*, 621, 507-515, doi:10.1016/j.scitotenv.2017.11.182.

Jo, D. S., Park, R. J., Kim, M. J., and Spracklen, D. V. (2013), Effects of chemical aging on global secondary organic aerosol using the volatility basis set approach, *Atmospheric Environment*, 81, 230-244.

June, N. A., Wang, X., Chen, L.-W. A., Chow, J. C., Watson, J. G., Wang, X. L., Henderson, B. H., Zheng, Y. Q., and Mao, J. Q. (2020), Spatial and temporal variability of brown carbon in the United States: Implications for direct radiative effects, *Geophysical Research Letters*, 47(23), doi:10.1029/2020GL090332.

Kamboures, M. A., Hu, S. S., Yu, Y., Sandoval, J., Rieger, P., Huang, S. M., Zhang, S., Dzhema, I., Huo, D., Ayala, A., and Chang, M.-C. O. (2013), Black carbon emissions in gasoline vehicle exhaust: A measurement and instrument comparison, *Journal of the Air & Waste Management Association*, 63(8), 886-901.

Kamruzzaman, M., Takahama, S., and Dillner, A. M. (2018), Quantification of amine functional groups and their influence on OM/OC in the IMPROVE network, *Atmospheric Environment*, 172, 124-132, doi:10.1016/j.atmosenv.2017.10.053.

Kavouras, I. G., Nikolich, G., Etyemezian, V. R., DuBois, D. W., King, J., and Shafer, D. (2012), In situ observations of soil minerals and organic matter in the early phases of prescribed fires, *Journal of Geophysical Research-Atmospheres*, 117.

Khan, B., Hays, M. D., Geron, C., and Jetter, J. (2012), Differences in the OC/EC ratios that characterize ambient and source aerosols due to thermal-optical analysis, *Aerosol Science and Technology*, 46(2), 127-137, <http://www.tandfonline.com/doi/pdf/10.1080/02786826.2011.609194>.

Kim, K. H., Sekiguchi, K., Furuuchi, M., and Sakamoto, K. (2011), Seasonal variation of carbonaceous and ionic components in ultrafine and fine particles in an urban area of Japan, *Atmospheric Environment*, 45(8), 1581-1590.

Kim, K. H., Sekiguchi, K., Kudo, S., Kinoshita, M., and Sakamoto, K. (2013), Carbonaceous and ionic components in ultrafine and fine particles at four sampling sites in the vicinity of roadway intersection, *Atmospheric Environment*, 74, 83-92.

Kim, P. S., Jacob, D. J., Fisher, J. A., Travis, K., Yu, K., Zhu, L., Yantosca, R. M., Sulprizio, M. P., Jimenez, J. L., Campuzano-Jost, P., Froyd, K. D., Liao, J., Hair, J. W., Fenn, M. A., Butler, C. F., Wagner, N. L., Gordon, T. D., Welti, A., Wennberg, P. O., Crouse, J. D., St Clair, J. M., Teng, A. P., Millet, D. B., Schwarz, J. P., Markovic, M. Z., and Perring, A. E. (2015), N Sources, seasonality, and trends of southeast US aerosol: an integrated analysis of surface, aircraft, and satellite observations with the GEOS-Chem chemical transport model, *Atmospheric Chemistry and Physics*, 15(18), 10411-10433, doi:10.5194/acp-15-10411-2015.

Kim, S. Y., Sheppard, L., Larson, T. V., Kaufman, J. D., and Vedal, S. (2015), Combining PM_{2.5} component data from multiple sources: Data consistency and characteristics relevant to epidemiological analyses of predicted long-term exposures, *Environmental Health Perspectives*, 123(7), 651-658, doi:10.1289/ehp.1307744.

Kim, S. Y., Olives, C., Sheppard, L., Sampson, P. D., Larson, T. V., Keller, J. P., and Kaufman, J. D. (2017), Historical prediction modeling approach for estimating long-term concentrations of PM_{2.5} in cohort studies before the 1999 implementation of widespread monitoring, *Environmental Health Perspectives*, 125(1), 38-46, doi:10.1289/ehp131.

Knue, J. (2016), Comparison of Four Thermal/Optical Carbon Analysis Protocols by Chemical Standards, B.S. Senior Thesis in Biochemistry and Molecular Biology, University of Nevada, Reno.

Kong, S. F., Ji, Y. Q., Lu, B., Chen, L., Han, B., Li, Z. Y., and Bai, Z. P. (2011), Characterization of PM₁₀ source profiles for fugitive dust in Fushun-a city famous for coal, *Atmospheric Environment*, 45(30), 5351-5365.

Kong, S. F., Ji, Y. Q., Lu, B., Bai, Z. P., Chen, L., Han, B., and Li, Z. Y. (2012), Chemical compositions and sources of atmospheric PM₁₀ in heating, non-heating and sand periods at a coal-based city in northeastern china, *Journal of Environmental Monitoring*, 14(3), 852-865.

Kotchenruther, R. A. (2013), A regional assessment of marine vessel PM_{2.5} impacts in the U.S. Pacific Northwest using a receptor-based source apportionment method, *Atmospheric Environment*, 68, 103-111.

Kotchenruther, R. A. (2015), The effects of marine vessel fuel sulfur regulations on ambient PM_{2.5} along the west coast of the US, *Atmospheric Environment*, 103, 121-128.

Kotchenruther, R. A. (2017), The effects of marine vessel fuel sulfur regulations on ambient PM_{2.5} at coastal and near coastal monitoring sites in the US, *Atmospheric Environment*, 151, 52-61, doi:10.1016/j.atmosenv.2016.12.012.

Kumar, A., Singh, S., Kumar, N., Singh, N., Kumar, K., and Chourasiya, S. (2021), Assessment of carbonaceous fractions in ambient aerosols at high altitude and lowland urban locations of Kumaon Province, Indian Himalaya, *Sn Applied Sciences*, 3(1), doi:10.1007/s42452-020-04010-4.

Kumar, A., Singh, S., Kumar, N., Singh, N., Kumar, K., Mishra, A. K., Chourasiya, S., and Kushwaha, H. S. (2021), Seasonal abundance and source attribution of carbonaceous aerosols at

different altitude of mountainous locations in Uttarakhand Himalaya, *Aerosol Science and Engineering*, 5(2), 233-246, doi:10.1007/s41810-021-00098-2.

Kuzmiakova, A., Dillner, A. M., and Takahama, S. (2016), An automated baseline correction protocol for infrared spectra of atmospheric aerosols collected on polytetrafluoroethylene (Teflon) filters, *Atmospheric Measurement Techniques*, 9(6), 2615-2631, doi:10.5194/amt-9-2615-2016.

Lai, S. C., Ho, K. F., Zhang, Y. Y., Lee, S. C., Huang, Y., and Zou, S. C. (2010), Characteristics of residential indoor carbonaceous aerosols: A case study in Guangzhou, Pearl River Delta region, *Aerosol and Air Quality Research*, 10(5), 472-478.

Laidlaw, M. A. S., Zahran, S., Mielke, H. W., Taylor, M. P., and Filippelli, G. M. (2012), Re-suspension of lead contaminated urban soil as a dominant source of atmospheric lead in Birmingham, Chicago, Detroit and Pittsburgh, USA, *Atmospheric Environment*, 49, 302-310.

Lambert, A., Hallar, A. G., Garcia, M., Strong, C., Andrews, E., and Hand, J. L. (2020), Dust impacts of rapid agricultural expansion on the Great Plains, *Geophysical Research Letters*, 47(20), doi:10.1029/2020GL090347.

Lee, C. T., Ram, S. S., Nguyen, D. L., Chou, C. C. K., Chang, S. Y., Lin, N. H., Chang, S. C., Hsiao, T. C., Sheu, G. R., Ou-Yang, C. F., Chi, K. H., Wang, S. H., and Wu, X. C. (2016), Aerosol chemical profile of near-source biomass burning smoke in Sonla, Vietnam during 7-SEAS campaigns in 2012 and 2013, *Aerosol and Air Quality Research*, 16(11), 2603-2617, doi:10.4209/aaqr.2015.07.0465.

Levin, E. J. T., McMeeking, G. R., Carrico, C. M., Mack, L. E., Kreidenweis, S. M., Wold, C. E., Moosmüller, H., Arnott, W. P., Hao, W. M., Collett, J. L., Jr., and Malm, W. C. (2010), Biomass burning smoke aerosol properties measured during Fire Laboratory at Missoula Experiments (FLAME), *Journal of Geophysical Research-Atmospheres*, 115.

Li, B., Zhang, J., Zhao, Y., Yuan, S. Y., Zhao, Q. Y., Shen, G. F., and Wu, H. S. (2015), Seasonal variation of urban carbonaceous aerosols in a typical city Nanjing in Yangtze River Delta, China, *Atmospheric Environment*, 106, 223-231.

Li, N., Wei, X., Han, W. H., Sun, S. Y., and Wu, J. H. (2020), Characteristics and temporal variations of organic and elemental carbon aerosols in PM₁ in Changchun, Northeast China, *Environmental Science and Pollution Research*, 27(8), 8653-8661, doi:10.1007/s11356-019-07494-9.

Li, S., Zhu, M., Yang, W. Q., Tang, M. J., Huang, X. L., Yu, Y. G., Fang, H., Yu, X., Yu, Q. Q., Fu, X. X., Song, W., Zhang, Y. L., Bi, X. H., and Wang, X. M. (2018), Filter-based measurement of light absorption by brown carbon in PM_{2.5} in a megacity in South China, *Science of the Total Environment*, 633, 1360-1369, doi:10.1016/j.scitotenv.2018.03.235.

Li, X., Xie, P., Li, A., Xu, J., Ren, H., Ren, B., Li, Y., and Li, J. (2021), Study of aerosol characteristics and sources using MAX-DOAS measurement during haze at an urban site in the Fenwei Plain, *Journal of Environmental Sciences (China)*, 107, 1-13, doi:10.1016/j.jes.2020.12.015.

Liao, H. T., Chou, C. C.-K., Chow, J. C., Watson, J. G., Hopke, P. K., and Wu, C. F. (2015), Source and risk apportionment of selected VOCs and PM_{2.5} species using partially constrained receptor models with multiple time resolution data, *Environmental Pollution*, 205, 121-130.

- Liao, W. J., Zhou, J. B., Zhu, S. J., Xiao, A. S., Li, K., and Schauer, J. J. (2020), Characterization of aerosol chemical composition and the reconstruction of light extinction coefficients during winter in Wuhan, China, *Chemosphere*, 241, doi:10.1016/j.chemosphere.2019.125033.
- Lim, S., Lee, M., Lee, G., Kim, S., Yoon, S., and Kang, K. (2012), Ionic and carbonaceous compositions of PM10, PM2.5 and PM1.0 at Gosan ABC Superstation and their ratios as source signature, *Atmospheric Chemistry and Physics*, 12(4), 2007-2024.
- Lin, G., Penner, J. E., Sillman, S., Taraborrelli, D., and Lelieveld, J. (2012), Global modeling of SOA formation from dicarbonyls, epoxides, organic nitrates and peroxides, *Atmospheric Chemistry and Physics*, 12(10), 4743-4774, <http://www.atmos-chem-phys.net/12/4743/2012/acp-12-4743-2012.pdf>.
- Lin, Z. J., Tao, J., Chai, F. H., Fan, S. J., Yue, J. H., Zhu, L. H., Ho, K. F., and Zhang, R. J. (2013), Impact of relative humidity and particles number size distribution on aerosol light extinction in the urban area of Guangzhou, *Atmospheric Chemistry and Physics*, 13(3), 1115-1128.
- Liu, C. N., Chiao, S., and Ryoo, J. M. (2019), Asian long-range transport in relation to atmospheric rivers in Northern California, *Atmosphere*, 10(6), doi:10.3390/atmos10060313.
- Liu, Y., and Liu, Z. (2016), Source apportionment of ambient PM2.5 by using Unmix and PMF reception models at Flint Hills rural site and Kansas City urban site, in *Proceedings, 2016 ASABE Annual International Meeting*, edited, American Society of Agricultural and Biological Engineers, doi:10.13031/aim.20162447784.
- Lowenthal, D. H., Watson, J. G., Koracin, D., Chen, L.-W. A., DuBois, D. W., Vellore, R., Kumar, N. K., Knipping, E. M., Wheeler, N., Craig, K., and Reid, S. (2010), Evaluation of regional scale receptor modeling, *Journal of the Air & Waste Management Association*, 60(1), 26-42, <http://www.tandfonline.com/doi/pdf/10.3155/1047-3289.60.1.26>.
- Lowenthal, D. H., Zielinska, B., Samburova, V., Collins, D., Taylor, N. K., and Kumar, N. (2015), Evaluation of assumptions for estimating chemical light extinction at US national parks, *Journal of the Air & Waste Management Association*, 65(3), 249-260, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2014.986307?needAccess=true>.
- Lowenthal, D. H., and Kumar, N. K. (2016), Evaluation of the IMPROVE Equation for estimating aerosol light extinction, *Journal of the Air & Waste Management Association*, 66(7), 726-737, doi:10.1080/10962247.2016.1178187.
- Ma, Q. X., Wu, Y. F., Fu, S. L., Zhang, D. Z., Han, Z. W., and Zhang, R. J. (2020), Pollution severity-dependent aerosol light scattering enhanced by inorganic species formation in Beijing haze, *Science of the Total Environment*, 719, doi:10.1016/j.scitotenv.2020.137545.
- MageeScientific (2021), DRI Model 2015, Magee Scientific Instruments, Berkeley, CA, <https://mageesci.com/mproducts/dri-model-2015/>.
- Malamakal, T., Chen, L.-W. A., Wang, X. L., Green, M. C., Gronstal, S., Chow, J. C., and Watson, J. G. (2013), Prescribed burn smoke impact in the Lake Tahoe Basin: Model simulation and field verification, *International Journal of Environment and Pollution*, 52(3/4), 225-243, https://www.researchgate.net/publication/260391315_Prescribed_burn_smoke_impact_in_the_Lake_Tahoe_Basin_Model_simulation_and_field_verification.

- Malm, W. C., Schichtel, B. A., and Pitchford, M. L. (2011), Uncertainties in PM_{2.5} gravimetric and speciation measurements and what we can learn from them, *Journal of the Air & Waste Management Association*, 61(11), 1131-1149.
- Malm, W. C., Schichtel, B. A., Hand, J. L., and Collett, J. L., Jr. (2017), Concurrent temporal and spatial trends in sulfate and organic mass concentrations measured in the IMPROVE monitoring program, *Journal of Geophysical Research: Atmospheres*, 122(19), 10462-10476, doi:10.1002/2017JD026865.
- Malm, W. C., Schichtel, B. A., Hand, J. L., and Prenni, A. J. (2020), Implications of organic mass to carbon ratios increasing over time in the rural United States, *Journal of Geophysical Research-Atmospheres*, 125(5), doi:10.1029/2019jd031480.
- Mao, Y. H., Li, Q. B., Zhang, L., Chen, Y., Randerson, J. T., Chen, D., and Liou, K. N. (2011), Biomass burning contribution to black carbon in the Western United States mountain ranges, *Atmospheric Chemistry and Physics*, 11(21), 11253-11266.
- Mao, Y. H., Li, Q. B., Chen, D., Zhang, L., Hao, W. M., and Liou, K. N. (2014), Top-down estimates of biomass burning emissions of black carbon in the Western United States, *Atmospheric Chemistry and Physics*, 14(14), 7195-7211.
- Mao, Y. H., Li, Q. B., Henze, D. K., Jiang, Z., Jones, D. B. A., Kopacz, M., He, C., Qi, L., Gao, M., Hao, W. M., and Liou, K. N. (2015), Estimates of black carbon emissions in the western United States using the GEOS-Chem adjoint model, *Atmospheric Chemistry and Physics*, 15(13), 7685-7702, <http://www.atmos-chem-phys.net/15/7685/2015/acp-15-7685-2015.pdf>.
- MARAMA (2011), Mid-Atlantic/Northeast Visibility Union second interim report, Mid-Atlantic Regional Air Management Association, Baltimore, MD, http://www.marama.org/publications_folder/reports/VisibilityInterimReport_sep2011.
- Mardi, A. H., Dadashazar, H., Painemal, D., Shingler, T., Seaman, S. T., Fenn, M. A., Hostetler, C. A., and Sorooshian, A. (2021), Biomass burning over the United States east coast and western North Atlantic Ocean: Implications for clouds and air quality, *Journal of Geophysical Research-Atmospheres*, 126(20), doi:10.1029/2021jd034916.
- McClure, C. D., and Jaffe, D. A. (2018), US particulate matter air quality improves except in wildfire-prone areas, *Proceedings of the National Academy of Sciences of the United States of America*, 115(31), 7901-7906, doi:10.1073/pnas.1804353115.
- McDonald, J. D., White, R. K., Holmes, T., Mauderly, J. L., Zielinska, B., and Chow, J. C. (2012), Simulated downwind coal combustion emissions for laboratory inhalation exposure atmospheres, *Inhalation Toxicology*, 24(5), 310-319.
- McDonald, J. D., Chow, J. C., Peccia, J., Liu, Y. S., Chand, R., Hidy, G. M., and Mauderly, J. L. (2013), Influence of collection region and site type on the composition of paved road dust, *Air Quality, Atmosphere & Health*, 6(3), 615-628, https://www.researchgate.net/publication/257762872_Influence_of_collection_region_and_site_type_on_the_composition_of_paved_road_dust.
- McKendry, I. G., and Gutzler, D. S. (2015), A possible link between wildfire aerosol and North American Monsoon precipitation in Arizona-New Mexico, *International Journal of Climatology*, 35(10), 3178-3184.

- Meng, X., Hand, J. L., Schichtel, B. A., and Liu, Y. (2018), Space-time trends in PM_{2.5} constituents in the conterminous United States estimated by a machine learning approach, 2005-2015, *Environmental International*, 121, 1137-1147, <https://doi.org/10.1016/j.envint.2018.10.029>.
- Miguel, A. H., and Hansen, A. D. A. (2012), High-time resolution measurements of black carbon particles in the exhaust emissions of a diesel engine during acceleration, deceleration and cruise conditions, *Journal of the Brazilian Chemical Society*, 23(6), 1140-1145, <http://www.scielo.br/pdf/jbchs/v23n6/20.pdf>.
- Miller, D. J., Sun, K., Zondlo, M. A., Kanter, D., Dubovik, O., Welton, E. J., Winker, D. M., and Ginoux, P. (2011), Assessing boreal forest fire smoke aerosol impacts on U.S. air quality: A case study using multiple data sets, *Journal of Geophysical Research-Atmospheres*, 116.
- Molders, N., Porter, S. E., Cahill, C. F., and Grell, G. A. (2010), Influence of ship emissions on air quality and input of contaminants in southern Alaska National Parks and Wilderness Areas during the 2006 tourist season, *Atmospheric Environment*, 44(11), 1400-1413.
- Murillo, J. H., Marin, J. F. R., Roman, S. R., Guerrero, V. H. B., Arias, D. S., Ramos, A. C., Gonzalez, B. C., and Baumgardner, D. G. (2013), Temporal and spatial variations in organic and elemental carbon concentrations in PM₁₀/PM_{2.5} in the metropolitan area of Costa Rica, Central America, *Atmospheric Pollution Research*, 4(1), 53-63.
- Murphy, B. N., and Pandis, S. N. (2010), Exploring summertime organic aerosol formation in the eastern United States using a regional-scale budget approach and ambient measurements, *Journal of Geophysical Research-Atmospheres*, 115.
- Murphy, D. M., Chow, J. C., Leibensperger, E. M., Malm, W. C., Pitchford, M. L., Schichtel, B. A., Watson, J. G., and White, W. H. (2011), Decreases in elemental carbon and fine particle mass in the United States, *Atmospheric Chemistry and Physics*, 11, 4679-4686, <http://www.atmos-chem-phys.net/11/4679/2011/acp-11-4679-2011.pdf>.
- Nava, V., Das, K. C., Amin, V., Gronstal, S., Wang, X. L., Chow, J. C., Watson, J. G., and Yang, Y. (2021), Quantification of carboxyl-functionalized multiwall carbon nanotubes in plant tissues with programmed thermal analysis, *Journal of Environmental Quality*, 50, 278-285, doi:10.1002/jeq2.20180.
- Ni, D. F., Lin, J. J., Gao, J., Xie, J. F., Wang, J., Guo, Y. Z., and Ren, J. N. (2020), Comparative analysis of new observation methods for carbonaceous aerosol (OC/EC), *Zhongguo Huanjing Kexue/China Environmental Science*, 40(12), 5191-5197.
- Ni, H. Y., Han, Y. M., Cao, J. J., Chen, L.-W. A., Tian, J., Wang, X. L., Chow, J. C., Watson, J. G., Wang, Q. Y., Wang, P., Li, H., and Huang, R. J. (2015), Emission characteristics of carbonaceous particles and trace gases from open burning of crop residue in China, *Atmospheric Environment*, 123, 399-406.
- Niu, X. Y., Chuang, H. C., Wang, X. L., Ho, S. S. H., Li, L. J., Qu, L. L., Chow, J. C., Watson, J. G., Sun, J., Lee, S. C., Cao, J. J., and Ho, K. F. (2020), Cytotoxicity of PM_{2.5} vehicular emissions in the Shing Mun Tunnel, Hong Kong, *Environmental Pollution*, 263, 114386, doi:10.1016/j.envpol.2020.114386.

O'Dell, K., Ford, B., Fischer, E. V., and Pierce, J. R. (2019), Contribution of wildland-fire smoke to US PM_{2.5} and its influence on recent trends, *Environmental Science & Technology*, 53(4), 1797-1804, doi:10.1021/acs.est.8b05430.

O'Neill, S. M., Lahm, P. W., Fitch, M. J., and Broughton, M. (2013), Summary and analysis of approaches linking visual range, PM_{2.5} concentrations, and air quality health impact indices for wildfires, *Journal of the Air & Waste Management Association*, 63(9), 1083-1090.

Ofori, F. G., Hopke, P. K., Aboh, I. J. K., and Bamford, S. A. (2012), Characterization of fine particulate sources at Ashaiman in Greater Accra, Ghana, *Atmospheric Pollution Research*, 3(3), 301-310, doi:10.5094/apr.2012.033.

Ofori, F. G., Hopke, P. K., Aboh, I. J. K., and Bamford, S. A. (2013), Biomass burning contribution to ambient air particulate levels at Navrongo in the Savannah zone of Ghana, *Journal of the Air & Waste Management Association*, 63(9), 1036-1045.

Olson, M. R., Graham, E., Hamad, S., Uchupalanun, P., Ramanathan, N., and Schauer, J. J. (2016), Quantification of elemental and organic carbon in atmospheric particulate matter using color space sensing-hue, saturation, and value (HSV) coordinates, *Science of the Total Environment*, 548, 252-259, doi:10.1016/j.scitotenv.2016.01.032.

Orasche, J., Seidel, T., Hartmann, H., Schnelle-Kreis, J., Chow, J. C., Ruppert, H., and Zimmermann, R. (2012), Comparison of emissions from wood combustion. Part 1: Emission factors and characteristics from different small-scale residential heating appliances considering particulate matter and polycyclic aromatic hydrocarbon (PAH)-related toxicological potential of particle-bound organic species, *Energy & Fuels*, 26(11), 6695-6704.

Pan, L., Kim, H., Lee, P., Saylor, R., Tang, Y., Tong, D., Baker, B., Kondragunta, S., Xu, C., G. Ruminski, M., Chen, W., McQueen, J., and Stajner, I. (2020), Evaluating a fire smoke simulation algorithm in the National Air Quality Forecast Capability (NAQFC) by using multiple observation data sets during the Southeast Nexus (SENEX) field campaign, *Geoscientific Model Development*, 13(5), 2169-2184, doi:10.5194/gmd-13-2169-2020.

Pant, P., Shukla, A., Kohl, S. D., Chow, J. C., Watson, J. G., and Harrison, R. M. (2015), Characterization of ambient PM_{2.5} at a pollution hotspot in New Delhi, India and inference of sources, *Atmospheric Environment*, 109, 178-189, <https://www.sciencedirect.com/science/article/pii/S1352231015002034>.

Papp, M. (2012), Documentation of measurement uncertainty estimates of collocated Chemical Speciation Network and IMPROVE data for use in secondary PM_{2.5} standard for visibility, U.S. Environmental Protection Agency, Research Triangle Park, NC, <http://www.epa.gov/ttn/naaqs/standards/pm/data/20120613Papp.pdf>.

Peng, C., Tian, M., Wang, X. L., Yang, F. M., Shi, G. M., Huang, R. J., Yao, X. J., Wang, Q. Y., Zhai, C. Z., Zhang, S. M., Qian, R. Z., Cao, J. J., and Chen, Y. (2020), Light absorption of brown carbon in PM_{2.5} in the Three Gorges Reservoir region, southwestern China: Implications of biomass burning and secondary formation, *Atmospheric Environment*, 229, doi:10.1016/j.atmosenv.2020.117409.

Peng, Y., Wang, H., Hou, M. L., Jiang, T., Zhang, M., Zhao, T. L., and Che, H. Z. (2020), Improved method of visibility parameterization focusing on high humidity and aerosol

concentrations during fog-haze events: Application in the GRAPES_CAUCE model in Jing-Jin-Ji, China, *Atmospheric Environment*, 222, doi:10.1016/j.atmosenv.2019.117139.

Pervez, S., Chakrabarty, R. K., Dewangan, S., Watson, J. G., Chow, J. C., Matawle, J. L., and Pervez, Y. (2015), Cultural and ritual burning emission factors and activity levels in India, *Aerosol and Air Quality Research*, 15, 72-80, http://aaqr.org/VOL15_No1_February2015/7_AAQR-14-01-OA-0022_72-80.pdf.

Pongpiachan, S., Ho, K. F., and Cao, J. J. (2013), Estimation of gas-particle partitioning coefficients (K_p) of carcinogenic aolycyclic aromatic hydrocarbons in carbonaceous aerosols collected at Chiang-Mai, Bangkok and Hat-Yai, Thailand, *Asian Pacific Journal of Cancer Prevention*, 14(4), 2461-2476.

Prabhakar, G., Sorooshian, A., Toffol, E., Arellano, A. F., and Betterton, E. A. (2014), Spatiotemporal distribution of airborne particulate metals and metalloids in a populated arid region, *Atmospheric Environment*, 92, 339-347.

Prenni, A. J., Levin, E. J. T., Benedict, K. B., Sullivan, A. P., Schurman, M. I., Gebhart, K. A., Day, D. E., Carrico, C. M., Malm, W. C., Schichtel, B. A., Collett, J. L., and Kreidenweis, S. M. (2014), Gas-phase reactive nitrogen near Grand Teton National Park: Impacts of transport, anthropogenic emissions, and biomass burning, *Atmospheric Environment*, 89, 749-756.

Prenni, A. J., Hand, J. L., Malm, W. C., Copeland, S., Luo, G., Yu, F., Taylor, N., Russell, L. M., and Schichtel, B. A. (2019), An exampination of the algorithm for estimating light extinction from IMPROVE particle speciation data, *Atmospheric Environment*, 214, 116880, <https://doi.org/10.1016/j.atmosenv.2019.116880>.

Priyadharshini, B., Verma, S., Chatterjee, A., Sharma, S. K., and Mandal, T. K. (2019), Chemical characterization of fine atmospheric particles of water-soluble ions and carbonaceous species in a tropical urban atmosphere over the eastern Indo-Gangetic Plain, *Aerosol and Air Quality Research*, 19(1), 129-147, doi:10.4209/aaqr.2017.12.0606.

Pu, B., and Ginoux, P. (2018), Climatic factors contributing to long-term variations in surface fine dust concentration in the United States, *Atmospheric Chemistry and Physics*, 18(6), 4201-4215, doi:10.5194/acp-18-4201-2018.

Qadir, R. M., Abbaszade, G., Schnelle-Kreis, J., Chow, J. C., and Zimmermann, R. (2013), Concentrations and source contributions of particulate organic matter before and after implementation of a low emission zone in Munich, Germany, *Environ. Poll.*, 175, 158-167.

Raman, A., Arellano, A. F., and Brost, J. J. (2014), Revisiting haboobs in the southwestern United States: An observational case study of the 5 July 2011 Phoenix dust storm, *Atmospheric Environment*, 89, 179-188.

Rasool, Q. Z., Zhang, R., Lash, B., Cohan, D. S., Cooter, E. J., Bash, J. O., and Lamsal, L. N. (2016), Enhanced representation of soil NO emissions in the Community Multiscale Air Quality (CMAQ) model version 5.0.2, *Geoscientific Model Development*, 9(9), 3177-3197, doi:10.5194/gmd-9-3177-2016.

Rattigan, O. V., Felton, H. D., Bae, M. S., Schwab, J. J., and Demerjian, K. L. (2011), Comparison of long-term PM(2.5) carbon measurements at an urban and rural location in New York, *Atmospheric Environment*, 45(19), 3228-3236.

Ravi, V., Vaughan, J. K., Wolcott, M. P., and Lamb, B. K. (2019), Impacts of prescribed fires and benefits from their reduction for air quality, health, and visibility in the Pacific Northwest of the United States, *Journal of the Air & Waste Management Association*, 69(3), 289-304, doi:10.1080/10962247.2018.1526721.

Rea, P., Ma, L., Gill, T. E., Gardea-Torresdey, J., Tamez, C., and Jin, L. (2020), Tracing gypsiferous White Sand aerosols in the shallow critical zone in the northern Sacramento Mountains, New Mexico using Sr/Ca and $^{87}\text{Sr}/^{86}\text{Sr}$ ratios, *Geoderma*, 372, 114387, <https://doi.org/10.1016/j.geoderma.2020.114387>.

Reggente, M., Dillner, A. M., and Takahama, S. (2016), Predicting ambient aerosol thermal-optical reflectance (TOR) measurements from infrared spectra: extending the predictions to different years and different sites, *Atmospheric Measurement Techniques*, 9(2), 441-454, doi:10.5194/amt-9-441-2016.

Reggente, M., A. M. Dillner, and S. Takahama (2019), Analysis of functional groups in atmospheric aerosols by infrared spectroscopy: systematic intercomparison of calibration methods for US measurement network samples, *Atmos. Meas. Tech.*, 12(4), 2287-2312, doi:10.5194/amt-12-2287-2019.

Reid, J. S., et al. (2017), Ground-based High Spectral Resolution Lidar observation of aerosol vertical distribution in the summertime Southeast United States, *J. Geophys. Res. Atmos.*, 122, 2970-3004, doi:10.1002/2016JD025798.

Requia, W. J., Coull, B. A., and Koutrakis, P. (2019), The impact of wildfires on particulate carbon in the western USA, *Atmospheric Environment*, 213, 1-10, doi:10.1016/j.atmosenv.2019.05.054.

Requia, W. J., Coull, B. A., and Koutrakis, P. (2019), The influence of spatial patterning on modeling PM_{2.5} constituents in Eastern Massachusetts, *Science of the Total Environment*, 682, 247-258, doi:10.1016/j.scitotenv.2019.05.012.

Requia, W. J., Jhun, I., Coull, B. A., and Koutrakis, P. (2019), Climate impact on ambient PM_{2.5} elemental concentration in the United States: A trend analysis over the last 30 years, *Environment International*, 131, doi:10.1016/j.envint.2019.05.082.

Riggio, G. M. (2015), Development and application of thermal/optical- quadrupole TOA-QMS mass spectrometry for quantitative analysis of major particulate matter constituents, M.S. Thesis, University of Nevada, Reno, NV.

Rodriguez, M. A., Barna, M. G., Gebhart, K. A., Hand, J. L., Adelman, Z. E., Schichtel, B. A., Collett, J. L., Jr., and Malm, W. C. (2011), Modeling the fate of atmospheric reduced nitrogen during the Rocky Mountain Atmospheric Nitrogen and Sulfur Study (RoMANS): Performance evaluation and diagnosis using integrated processes rate analysis, *Atmospheric Environment*, 45(1), 223-234.

Ruthenburg, T. C., Perlin, P. C., Liu, V., McDade, C. E., and Dillner, A. M. (2014), Determination of organic matter and organic matter to organic carbon ratios by infrared spectroscopy with application to selected sites in the IMPROVE network, *Atmospheric Environment*, 86(0), 47-57, <http://www.sciencedirect.com/science/article/pii/S1352231013009795>.

Ruzer, L., and Harley, N. H. (2013), *Aerosols Handbook : Measurement, Dosimetry, and Health Effects, Second Edition*, CRC Press/Taylor & Francis, New York, NY.

Sahu, M., Hu, S., Ryan, P. H., LeMasters, G., Grinshpun, S. A., Chow, J. C., and Biswas, P. (2011), Chemical compositions and source identification of PM_{2.5} aerosols for estimation of a diesel source surrogate, *Science of the Total Environment*, 409(13), 2642-2651, [\\joint\caf\References\DRIPDFs\Articles\Sahuetal2011STOTENDieselSource.pdf](https://doi.org/10.1016/j.scitotenv.2011.08.011).

Salako, G. O., Hopke, P. K., Cohen, D. D., Begum, B. A., Biswas, S. K., Pandit, G. G., Chung, Y. S., Abd Rahman, S., Hamzah, M. S., Davy, P., Markwitz, A., Shagjjamba, D., Lodoysamba, S., Wimolwattanapun, W., and Bunprapob, S. (2012), Exploring the variation between EC and BC in a variety of locations, *Aerosol and Air Quality Research*, 12(1), 1-7.

Sarkar, C., N. Spada, S. Xu, M. M. Shafer, and N. P. Hyslop (2023), An inter-laboratory comparison of elemental loadings of PM_{2.5} samples using energy-dispersive XRF and magnetic-sector ICP-MS, *Atmospheric Environment*, 293, 119463, doi:<https://doi.org/10.1016/j.atmosenv.2022.119463>.

Schichtel, B. A., Pitchford, M. L., and White, W. H. (2011), Comments on "Impact of California's Air Pollution Laws on Black Carbon and their Implications for Direct Radiative Forcing" by R. Bahadur et al, *Atmospheric Environment*, 45(24), 4116-4118.

Schichtel, B. A., RodriguezB, M. A., Barna, M. G., Gebhart, K. A., Pitchford, M. L., and Malm, W. C. (2012), A semi-empirical, receptor-oriented Lagrangian model for simulating fine particulate carbon at rural sites, *Atmospheric Environment*, 61, 361-370.

Schichtel, B. A., Hand, J. L., Barna, M. G., Gebhart, K. A., Copeland, S., Vimont, J., and Malm, W. C. (2017), Origin of fine particulate carbon in the rural United States, *Environmental Science & Technology*, 51(17), 9846-9855, doi:10.1021/acs.est.7b00645.

Schlosser, J. S., Braun, R. A., Bradley, T., Dadashazar, H., MacDonald, A. B., Aldhaif, A. A., Aghdam, M. A., Mardi, A. H., Xian, P., and Sorooshian, A. (2017), Analysis of aerosol composition data for western United States wildfires between 2005 and 2015: Dust emissions, chloride depletion, and most enhanced aerosol constituents, *Journal of Geophysical Research: Atmospheres*, 122(16), 8951-8966, doi:10.1002/2017JD026547.

Schwander, S., Okello, C. D., Freers, J., Chow, J. C., Watson, J. G., M., C., and Q.Y., M. (2014), Particulate matter air pollution in Mpererwe District, Kampala, Uganda - A pilot study, *Journal of Environmental and Public Health*, 2014(763934), 1-7, doi:[dx.doi.org/10.1155/2014/763934](https://doi.org/10.1155/2014/763934).

Shakya, K. M., and Peltier, R. E. (2015), Non-sulfate sulfur in fine aerosols across the United States: Insight for organosulfate prevalence, *Atmospheric Environment*, 100, 159-166.

Shen, G. F., Xue, M., Yuan, S. Y., Zhang, J., Zhao, Q. Y., Li, B., Wu, H. S., and Ding, A. J. (2014), Chemical compositions and reconstructed light extinction coefficients of particulate matter in a mega-city. in the western Yangtze River Delta, China, *Atmospheric Environment*, 83, 14-20.

Shen, J. Y., Zhao, Q. B., Cheng, Z., Huo, J. T., Zhu, W. F., Zhang, Y. H., Duan, Y. S., Wang, X. L., Chen, L.-W. A., and Fu, Q. Y. (2020), Evolution of source contributions during heavy fine particulate matter (PM_{2.5}) pollution episodes in eastern China through online measurements, *Atmospheric Environment*, 232, doi:10.1016/j.atmosenv.2020.117569.

- Shen, Z. X., Lei, Y. L., Zhang, L. M., Zhang, Q., Zeng, Y. L., Tao, J., Zhu, C. H., Cao, J. J., Xu, H. M., and Liu, S. X. (2017), Methanol extracted brown carbon in PM_{2.5} over Xi'an, China: Seasonal variation of optical properties and sources identification, *Aerosol Science and Engineering*, 1(2), 57-65, doi:10.1007/s41810-017-0007-z.
- Shi, X. Y., He, K. B., Song, W. W., Wang, X. T., and Tan, J. H. (2012), Effects of a diesel oxidation catalyst on gaseous pollutants and fine particles from an engine operating on diesel and biodiesel, *Frontiers of Environmental Science & Engineering*, 6(4), 463-469.
- Shimada, K., Takami, A., Ishida, T., Taniguchi, Y., Hasegawa, S., Chan, C. K., Kim, Y. P., Lin, N. H., and Hatakeyama, S. (2021), Long-term measurements of carbonaceous aerosol at Cape Hedo, Okinawa, Japan: Effects of changes in emissions in East Asia, *Aerosol and Air Quality Research*, 21(9), doi:10.4209/aaqr.200505.
- Shrivastava, M., Easter, R. C., Liu, X. H., Zelenyuk, A., Singh, B., Zhang, K., Ma, P. L., Chand, D., Ghan, S., Jimenez, J. L., Zhang, Q., Fast, J., Rasch, P. J., and Tiitta, P. (2015), Global transformation and fate of SOA: Implications of low-volatility SOA and gas-phase fragmentation reactions, *Journal of Geophysical Research-Atmospheres*, 120(9), 4169-4195.
- Simon, H., Bhave, P. V., Swall, J. L., Frank, N. H., and Malm, W. C. (2011), Determining the spatial and seasonal variability in OM/OC ratios across the US using multiple regression, *Atmospheric Chemistry and Physics*, 11(6), 2933-2949.
- Singh, R., Kulshrestha, M. J., Kumar, B., and Chandra, S. (2016), Impact of anthropogenic emissions and open biomass burning on carbonaceous aerosols in urban and rural environments of Indo-Gangetic Plain, *Air Quality Atmosphere and Health*, 9(7), 809-822, doi:10.1007/s11869-015-0377-9.
- Smiley, J. (2010), Technical memorandum: Experimental intercomparison of speciation laboratories, U.S. Environmental Protection Agency, Montgomery, AL, <http://www.epa.gov/ttn/amtic/files/ambient/pm25/spec/multilabspeciationpt2009.pdf>.
- Snider, G., Weagle, C. L., Murdymootoo, K. K., Ring, A., Ritchie, Y., Stone, E., Walsh, A., Akoshile, C., Anh, N. X., Balasubramanian, R., Brook, J., Qonitan, F. D., Dong, J. L., Griffith, D., He, K. B., Holben, B. N., Kahn, R., Lagrosas, N., Lestari, P., Ma, Z. W., Misra, A., Norford, L. K., Quel, E. J., Salam, A., Schichtel, B., Segev, L., Tripathi, S., Wang, C., Yu, C., Zhang, Q., Zhang, Y. X., Brauer, M., Cohen, A., Gibson, M. D., Liu, Y., Martins, J. V., Rudich, Y., and Martin, R. V. (2016), Variation in global chemical composition of PM_{2.5}: Emerging results from SPARTAN, *Atmospheric Chemistry and Physics*, 16(15), 9629-9653, doi:10.5194/acp-16-9629-2016.
- Solomon, P. A., Crumpler, D., Flanagan, J. B., Jayanty, R. K. M., Rickman, E. E., and McDade, C. E. (2014), US National PM_{2.5} Chemical Speciation Monitoring Networks-CSN and IMPROVE: Description of networks, *Journal of the Air & Waste Management Association*, 64(12), 1410-1438, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2014.956904>.
- Soto-Garcia, L. L., Andreae, M. O., Andreae, T. W., Artaxo, P., Maenhaut, W., Kirchstetter, T. W., Novakov, T., Chow, J. C., and Mayol-Bracero, O. L. (2011), Evaluation of the carbon content of aerosols from the burning of biomass in the Brazilian Amazon using thermal, optical and thermal-optical analysis methods, *Atmospheric Chemistry and Physics*, 11(9), 4425-4444.

- Spada, N. J., Cheng, X., White, W. H., and Hyslop, N. P. (2018), Decreasing vanadium footprint of bunker fuel emissions, *Environmental Science and Technology*, 52(20), 11528-11534, doi:10.1021/acs.est.8b02942.
- Spada, N. J., and N. P. Hyslop (2018), Comparison of elemental and organic carbon measurements between IMPROVE and CSN before and after method transitions, *Atmospheric Environment*, 178, 173-180, doi:<https://doi.org/10.1016/j.atmosenv.2018.01.043>.
- Sturtz, T. M., Schichtel, B. A., and Larson, T. V. (2014), Coupling chemical transport model source attributions with positive matrix factorization: Application to two IMPROVE sites impacted by wildfires, *Environmental Science & Technology*, 48(19), 11389-11396.
- Sumlin, B. J. (2015), Development, characterization, and application of the DRI Model 2015 multiwavelength thermal-optical carbon analyzer, M.S. Thesis, University of Nevada, Reno, NV.
- Tai, A. P. K., Mickley, L. J., and Jacob, D. J. (2010), Correlations between fine particulate matter (PM_{2.5}) and meteorological variables in the United States: Implications for the sensitivity of PM_{2.5} to climate change, *Atmospheric Environment*, 44(32), 3976-3984.
- Takahama, S., A. M. Dillner, A. T. Weakley, M. Reggente, C. Bürki, M. Lbadaoui-Darvas, B. Debus, A. Kuzmiakova, and A. S. Wexler (2019), Atmospheric particulate matter characterization by Fourier transform infrared spectroscopy: a review of statistical calibration strategies for carbonaceous aerosol quantification in US measurement networks, *Atmospheric Measurement Techniques*, 12(1), 525-567, doi:<https://doi.org/10.5194/amt-12-525-2019>.
- Tang, D. L., Li, T. Y., Chow, J. C., Kulkarni, S. U., Watson, J. G., Ho, S. S. H., Quan, Z. Y., Qu, L. R., and Perera, F. (2014), Air pollution effects on fetal and child development: A cohort comparison in China, *Environ. Poll.*, 185, 90-96, https://www.researchgate.net/publication/258635235_Air_pollution_effects_on_fetal_and_child_development_A_cohort_comparison_in_China.
- Tanner, R. L., Bairai, S. T., and Mueller, S. F. (2015), Trends in concentrations of atmospheric gaseous and particulate species in rural eastern Tennessee as related to primary emission reductions, *Atmospheric Chemistry and Physics*, 15(17), 9781-9797, doi:10.5194/acp-15-9781-2015.
- Tao, J., Cao, J. J., Zhang, R. J., Zhu, L. H., Zhang, T., Shi, S., and Chan, C. Y. (2012), Reconstructed light extinction coefficients using chemical compositions of PM_{2.5} in winter in urban Guangzhou, China, *Advances in Atmospheric Sciences*, 29(2), 359-368, http://www.scies.org/UploadPic/Files_2012111173320826.pdf.
- Tao, J., Shen, Z. X., Zhu, C. S., Yue, J. H., Cao, J. J., Liu, S. X., Zhu, L. H., and Zhang, R. J. (2012), Seasonal variations and chemical characteristics of sub-micrometer particles (PM₁) in Guangzhou, China, *Atmospheric Research*, 118, 222-231, doi:10.1016/j.atmosres.2012.06.025.
- Tao, J., Zhang, L. M., Engling, G., Zhang, R. J., Yang, Y. H., Cao, J. J., Zhu, C. S., Wang, Q. Y., and Luo, L. (2013), Chemical composition of PM_{2.5} in an urban environment in Chengdu, China: Importance of springtime dust storms and biomass burning, *Atmospheric Research*, 122, 270-283.
- Tao, J., Zhang, L. M., Cao, J. J., Hsu, S. C., Xia, X. G., Zhang, Z. S., Lin, Z. J., Cheng, T. T., and Zhang, R. J. (2014), Characterization and source apportionment of aerosol light extinction in Chengdu, southwest China, *Atmospheric Environment*, 95, 552-562.

- Tao, J., Zhang, L. M., Ho, K. F., Zhang, R. J., Lin, Z. J., Zhang, Z. S., Lin, M., Cao, J. J., Liu, S. X., and Wang, G. H. (2014), Impact of PM_{2.5} chemical compositions on aerosol light scattering in Guangzhou - the largest megacity in South China, *Atmospheric Research*, 135, 48-58.
- Tao, J., Zhang, L. M., Wu, Y. F., and Zhang, Z. S. (2020), Evaluation of the IMPROVE formulas based on Mie model in the calculation of particle scattering coefficient in an urban atmosphere, *Atmospheric Environment*, 222, doi:10.1016/j.atmosenv.2019.117116.
- Terhorst, J., and Berkman, M. (2010), Effect of coal-fired power generation on visibility in a nearby national park, *Atmospheric Environment*, 44(21-22), 2524-2531.
- Tian, J., Wang, Q. Y., Han, Y. M., Ye, J. H., Wang, P., Pongpiachan, S., Ni, H. Y., Zhou, Y. Q., Wang, M., Zhao, Y. Z., and Cao, J. J. (2020), Contributions of aerosol composition and sources to particulate optical properties in a southern coastal city of China, *Atmospheric Research*, 235, doi:10.1016/j.atmosres.2019.104744.
- Tian, P., Wang, G. F., Zhang, R. J., Wu, Y. F., and Yan, P. (2015), Impacts of aerosol chemical compositions on optical properties in urban Beijing, China, *Particuology*, 18, 155-164.
- Tolocka, M. P., and Turpin, B. J. (2012), Contribution of organosulfur compounds to organic aerosol mass, *Environmental Science & Technology*, 46(15), 7978-7983.
- Tong, D. Q., Dan, M., Wang, T., and Lee, P. (2012), Long-term dust climatology in the western United States reconstructed from routine aerosol ground monitoring, *Atmospheric Chemistry and Physics*, 12(11), 5189-5205.
- Tong, D. Q., Wang, J. X. L., Gill, T. E., Lei, H., and Wang, B. Y. (2017), Intensified dust storm activity and Valley fever infection in the southwestern United States, *Geophysical Research Letters*, 44(9), 4304-4312, doi:10.1002/2017gl073524.
- Trivitayanurak, W., and Adams, P. J. (2014), Does the POA-SOA split matter for global CCN formation?, *Atmospheric Chemistry and Physics*, 14(2), 995-1010.
- U.S.EPA (2012), PM 2.5 -Visibility (IMPROVE), U.S. Environmental Protection Agency, Research Triangle Park, NC, <http://www.epa.gov/ttnamti1/visdata.html>.
- U.S.EPA (2017), Chemical speciation, U.S. Environmental Protection Agency, Research Triangle Park, NC, <http://www.epa.gov/ttn/amtic/speciepg.html>.
- Vega, E., López-Veneroni, D., Ramírez, O., Chow, J. C., and Watson, J. G. (2021), Particle-bound PAHs and chemical composition, Sources and health risk of PM_{2.5} in a highly industrialized area, *Aerosol and Air Quality Research*, 21, 210047, doi:10.4209/aaqr.210047.
- Verma, M., Pervez, S., Chow, J. C., Majumdar, D., Watson, J. G., Pervez, Y. F., Deb, M. K., Shrivastava, K., Jain, V. K., Khan, N. A., Mandal, P., and Chakrabarty, R. K. (2021), Assessing the magnitude of PM_{2.5} polycyclic aromatic hydrocarbon emissions from residential solid fuel combustion and associated health hazards in South Asia, *Atmospheric Pollution Research*, 12, 101142, doi:10.1016/j.apr.2021.101142.
- Walker, J. M., Philip, S., Martin, R. V., and Seinfeld, J. H. (2012), Simulation of nitrate, sulfate, and ammonium aerosols over the United States, *Atmospheric Chemistry and Physics*, 12(22), 11213-11227.

- Wang, H. B., Li, X. H., Shi, G. M., Cao, J. J., Li, C. C., Yang, F. M., Ma, Y. L., and He, K. B. (2015), PM_{2.5} chemical compositions and aerosol optical properties in Beijing during the late fall, *Atmosphere*, 6(2), 164-182.
- Wang, M., Xu, B. Q., Zhao, H. B., Cao, J. J., Joswiak, D., Wu, G. J., and Lin, S. B. (2012), The influence of dust on quantitative measurements of black carbon in ice and snow when using a thermal optical method, *Aerosol Science and Technology*, 46(1), 60-69.
- Wang, Q. Y., Cao, J. J., Shen, Z. X., Tao, J., Xiao, S., Luo, L., He, Q. Y., and Tang, X. Y. (2013), Chemical characteristics of PM_{2.5} during dust storms and air pollution events in Chengdu, China, *Particuology*, 11(1), 70-77.
- Wang, Q. Y., Cao, J. J., Tao, J., Li, N., Su, X. O., Chen, L.-W. A., Wang, P., Shen, Z. X., Liu, S. X., and Dai, W. T. (2013), Long-term trends in visibility and at Chengdu, China, *Plos One*, 8(7), e68894.
- Wang, Q. Y., Liu, S. X., Li, N., Dai, W. T., Wu, Y. F., Tian, J., Zhou, Y. Q., Wang, M., Sai, S., Ho, H., Chen, Y., Zhang, R. J., Zhao, S. Y., Zhu, C. S., Han, Y. M., Tie, X. X., and Cao, J. J. (2019), Impacts of short-term mitigation measures on PM_{2.5} and radiative effects: a case study at a regional background site near Beijing, China, *Atmospheric Chemistry and Physics*, 19(3), 1881-1899, doi:10.5194/acp-19-1881-2019.
- Watson, J. G., Chow, J. C., Chen, L.-W. A., Green, M. C., and Kohl, S. D. (2011), Wintertime PM_{2.5} source contributions in Reno, NV, Desert Research Institute, Reno, NV.
- Wang, X. L., Watson, J. G., Chow, J. C., Kohl, S. D., Chen, L.-W. A., Sodeman, D. A., Legge, A. H., and Percy, K. E. (2012), Measurement of real-world stack emissions with a dilution sampling system, in *Alberta Oil Sands: Energy, Industry, and the Environment*, edited by K. E. Percy, pp. 171-192, Elsevier Press, Amsterdam, The Netherlands, https://www.researchgate.net/publication/235341714_Measurement_of_Real-World_Stack_Emissions_with_a_Dilution_Sampling_System.
- Watson, J. G., Chow, J. C., Lowenthal, D. H., Chen, L.-W. A., and Wang, X. L. (2012), Reformulation of PM_{2.5} mass reconstruction assumptions for the San Joaquin Valley: Literature review, Desert Research Institute, Reno, NV.
- Watson, J. G., and Chow, J. C. (2013), Source apportionment, in *Encyclopedia of Environmetrics*, edited by A. H. El-Shaarwi and W. W. Piegorsch, pp. 1-8, John Wiley & Sons, Ltd., Chichester, UK, <http://onlinelibrary.wiley.com/doi/10.1002/9780470057339.vas034.pub2/abstract>.
- Watson, J. G., Chow, J. C., Wang, X. L., Kohl, S. D., Gronstal, S., and Zielinska, B. (2013), Measurement of real-world stack emissions in the Athabasca Oil Sands Region with a dilution sampling system during March, 2011, Desert Research Institute, Reno, NV, USA.
- Watson, J. G., Chow, J. C., Wang, X. L., Kohl, S. D., and Sodeman, D. A. (2013), Measurement of real-world stack emissions in the Athabasca Oil Sands Region with a dilution sampling system during August, 2008, Desert Research Institute, Reno, NV, USA.
- Watson, J. G., Chow, J. C., Wang, X. L., Lowenthal, D. H., Kohl, S. D., and Gronstal, S. (2013), Characterization of real-world emissions from nonroad mining trucks in the Athabasca Oil Sands Region during October, 2010, Desert Research Institute, Reno, NV.

Watson, J. G., Chow, J. C., Wang, X. L., and Kohl, S. D. (2014), Chemical source profiles for geological dust samples from the Athabasca Oil Sands Region, Desert Research Institute, Reno, NV.

Wang, X. L., Chow, J. C., Kohl, S. D., Percy, K. E., Legge, A. H., and Watson, J. G. (2015), Characterization of PM_{2.5} and PM₁₀ fugitive dust source profiles in the Athabasca Oil Sands Region, *Journal of the Air & Waste Management Association*, 65(12), 1421-1433, <http://www.tandfonline.com/doi/full/10.1080/10962247.2015.1100693>.

Watson, J. G., and Chow, J. C. (2015), Receptor models and measurements for identifying and quantifying air pollution sources, in *Introduction to Environmental Forensics, 3rd Edition*, edited by B. L. Murphy and R. D. Morrison, pp. 677-706, Elsevier, Amsterdam, The Netherlands, https://www.researchgate.net/publication/269394107_Receptor_Models_and_Measurements_for_Identifying_and_Quantifying_Air_Pollution_Sources.

Watson, J. G., Chow, J. C., Lowenthal, D. H., Chen, L.-W. A., Shaw, S., Edgerton, E. S., and Blanchard, C. L. (2015), PM_{2.5} source apportionment with organic markers in the Southeastern Aerosol Research and Characterization (SEARCH) Study, *Journal of the Air & Waste Management Association*, 65(9), 1104-1118, <http://www.tandfonline.com/doi/pdf/10.1080/10962247.2015.1063551>.

Watson, J. G., Chow, J. C., Engling, G., Chen, L.-W. A., and Wang, X. L. (2016), Source apportionment: Principles and methods, in *Airborne Particulate Matter: Sources, Atmospheric Processes and Health*, edited by R. M. Harrison, pp. 72-125, Royal Society of Chemistry, London, UK, https://www.researchgate.net/publication/308372849_Source_Apportionment_Principles_and_Methods.

Watson, J. G., Cao, J. J., Wang, X. L., and Chow, J. C. (2021), PM_{2.5} pollution in China's Guanzhong Basin and the USA's San Joaquin Valley mega-regions, *Faraday Discussions*, 226, 255-289, doi:10.1039/D0FD00094A.

Wei, C., Bandowe, B. A. M., Han, Y. M., Cao, J. J., Watson, J. G., Chow, J. C., and Wilcke, W. (2021), Polycyclic aromatic compounds (PAHs, oxygenated PAHs, nitrated PAHs, and azaarenes) in air from four climate zones of China: Occurrence, gas/particle partitioning, and health risks, *Science of The Total Environment*, 786, 147234, doi:10.1016/j.scitotenv.2021.147234.

White, W. H., Farber, R. J., Malm, W. C., Nuttall, M., Pitchford, M. L., and Schichtel, B. A. (2012), Comment on "Effect of coal-fired power generation on visibility in a nearby National Park (Terhorst and Berkman, 2010)", *Atmospheric Environment*, 55, 173-178.

White, W. H., Hyslop, N. P., Trzepla, K., Yarkin, S., Rarig, R. S., Gill, T. E., and Jin, L. X. (2015), Regional transport of a chemically distinctive dust: Gypsum from White Sands, New Mexico (USA), *Aeolian Research*, 16, 1-10, doi:10.1016/j.aeolia.2014.10.001.

White, W. H., Trzepla, K., Hyslop, N. P., and Schichtel, B. A. (2016), A critical review of filter transmittance measurements for aerosol light absorption, and de novo calibration for a decade of monitoring on PTFE membranes, *Aerosol Science and Technology*, 50(9), 984-1002, doi:10.1080/02786826.2016.1211615.

- Winqvist, A., Schauer, J. J., Turner, J. R., Klein, M., and Sarnat, S. E. (2015), Impact of ambient fine particulate matter carbon measurement methods on observed associations with acute cardiorespiratory morbidity, *Journal of Exposure Science & Environmental Epidemiology*, 25(2), 215-221.
- Wu, C., Ng, W. M., Huang, J. X., Wu, D., and Yu, J. Z. (2012), Determination of elemental and organic carbon in PM_{2.5} in the Pearl River Delta Region: Inter-instrument (Sunset vs. DRI Model 2001 Thermal/Optical Carbon Analyzer) and inter-protocol comparisons (IMPROVE vs. ACE-Asia Protocol), *Aerosol Science and Technology*, 46(6), 610-621, <http://www.tandfonline.com/doi/pdf/10.1080/02786826.2011.649313>.
- Wu, F., Chow, J. C., An, Z. S., Watson, J. G., and Cao, J. J. (2011), Size-differentiated chemical characteristics of Asian Paleo dust: Records from aeolian deposition on the Chinese loess plateau, *Journal of the Air & Waste Management Association*, 61(2), 180-189, <http://www.tandfonline.com/doi/pdf/10.3155/1047-3289.61.2.180>.
- Xiao, S., Wang, Q. Y., Cao, J. J., Huang, R. J., Chen, W. D., Han, Y. M., Xu, H. M., Liu, S. X., Zhou, Y. Q., Wang, P., Zhang, J. Q., and Zhan, C. L. (2014), Long-term trends in visibility and impacts of aerosol composition on visibility impairment in Baoji, China, *Atmospheric Research*, 149, 88-95.
- Xing, L., Fu, T. M., Cao, J. J., Lee, S. C., Wang, G. H., Ho, K. F., Cheng, M. C., You, C. F., and Wang, T. J. (2013), Seasonal and spatial variability of the OM/OC mass ratios and high regional correlation between oxalic acid and zinc in Chinese urban organic aerosols, *Atmospheric Chemistry and Physics*, 13(8), 4307-4318.
- Xu, H. M., Tao, J., Ho, S. S. H., Ho, K. F., Cao, J. J., Li, N., Chow, J. C., Wang, G. H., Han, Y. M., Zhang, R. J., Watson, J. G., and Zhang, J. Q. (2013), Characteristics of fine particulate non-polar organic compounds in Guangzhou during the 16th Asian Games: Effectiveness of air pollution controls, *Atmospheric Environment*, 76, 94-101, doi:j.atmosenv.2012.12.037.
- Yang, F. M., Brook, J., He, K. B., Duan, F. K., and Ma, Y. L. (2010), Temporal variability in fine carbonaceous aerosol over two years in two Megacities: Beijing and Toronto, *Advances in Atmospheric Sciences*, 27(3), 705-714.
- Yang, X. F., Robles, J. A., Wang, X. L., Chen, L.-W. A., Watson, J. G., and Chow, J. C. (2013), CHNS analysis of aerosols on a modified thermal/optical carbon analyzer: System setup and calibration protocol, presented at Proceedings, 106th Annual Meeting of the Air & Waste Management Association, Pittsburgh, PA.
- Yatkin, S., H. S. Amin, K. Trzepla, and A. M. Dillner (2016), Preparation of lead (Pb) X-ray fluorescence reference materials for the EPA Pb monitoring program and the IMPROVE network using an aerosol deposition method, *Aerosol Science and Technology*, 50(4), 309-320, doi:10.1080/02786826.2016.1150956.
- Yatkin, S., K. Trzepla, W. H. White, and N. P. Hyslop (2018), Generation of multi-element reference materials on PTFE filters mimicking ambient aerosol characteristics, *Atmospheric Environment*, 189, 41-49, doi:https://doi.org/10.1016/j.atmosenv.2018.06.034.
- Yatkin, S., K. Trzepla, W. H. White, N. J. Spada, and N. P. Hyslop (2020), Development of single-compound reference materials on polytetrafluoroethylene filters for analysis of aerosol

samples, *Spectrochimica Acta Part B: Atomic Spectroscopy*, 171, 105948, doi:<https://doi.org/10.1016/j.sab.2020.105948>.

Yazdani, A., A. M. Dillner, and S. Takahama (2021), Estimating mean molecular weight, carbon number, and OMOC with mid-infrared spectroscopy in organic particulate matter samples from a monitoring network, *Atmos. Meas. Tech.*, 14(7), 4805-4827, doi:10.5194/amt-14-4805-2021.

Yelverton, T. L. B., Hays, M. D., Gullett, B. K., and Linak, W. P. (2014), Black carbon measurements of flame-generated soot as determined by optical, thermal-optical, direct absorption, and laser incandescence methods, *Environmental Engineering Science*, 31(4), 209-215.

Yu, S., Mathur, R., Pleim, J., Pouliot, G., Wong, D., Eder, B., Schere, K., Gilliam, R., and Rao, S. T. (2012), Comparative evaluation of the impact of WRF/NMM and WRF/ARW meteorology on CMAQ simulations for PM_{2.5} and its related precursors during the 2006 TexAQS/GoMACCS study, *Atmospheric Chemistry and Physics*, 12(9), 4091-4106.

Yu, S., Mathur, R., Pleim, J., Wong, D., Gilliam, R., Alapaty, K., Zhao, C., and Liu, X. (2014), Aerosol indirect effect on the grid-scale clouds in the two-way coupled WRF-CMAQ: model description, development, evaluation and regional analysis, *Atmospheric Chemistry and Physics*, 14(20), 11247-11285.

Zeng, T., and Wang, Y. H. (2011), Nationwide summer peaks of OC/EC ratios in the contiguous United States, *Atmospheric Environment*, 45(3), 578-586.

Zhan, C. L., Zhang, J. Q., Zheng, J. R., Yao, R. Z., Wang, P., Liu, H. X., Xiao, W. S., Liu, X. L., and Cao, J. J. (2019), Characterization of carbonaceous fractions in PM_{2.5} and PM₁₀ over a typical industrial city in central China, *Environmental Science and Pollution Research*, 26(17), 16855-16867, doi:10.1007/s11356-017-9970-9.

Zhang, Q., Shen, Z. X., Lei, Y. L., Wang, Y. S., Zeng, Y. L., Wang, Q. Y., Ning, Z., Cao, J. J., Wang, L. Q., and Xu, H. M. (2018), Variations of particle size distribution, black carbon, and brown carbon during a severe winter pollution event over Xi'an, China, *Aerosol and Air Quality Research*, 18(6), 1419-1430, doi:10.4209/aaqr.2018.01.0007.

Zhang, R. J., Tao, J., Ho, K. F., Shen, Z. X., Wang, G. H., Cao, J. J., Liu, S. X., Zhang, L. M., and Lee, S. C. (2012), Characterization of atmospheric organic and elemental carbon of PM_{2.5} in a typical semi-arid area of northeastern China, *Aerosol and Air Quality Research*, 12(5), 792-802.

Zhang, R., Bian, Q. J., Fung, J. C. H., and Lau, A. K. H. (2013), Mathematical modeling of seasonal variations in visibility in Hong Kong and the Pearl River Delta region, *Atmospheric Environment*, 77, 803-816.

Zhang, R., Jing, J., Tao, J., Hsu, S. C., Wang, G., Cao, J. J., Lee, C. S. L., Zhu, L., Chen, Z., Zhao, Y., and Shen, Z. (2013), Chemical characterization and source apportionment of PM_{2.5} in Beijing: seasonal perspective, *Atmospheric Chemistry and Physics*, 13(14), 7053-7074, <http://www.atmos-chem-phys.net/13/7053/2013/>.

Zhang, T., Cao, J. J., Chow, J. C., Shen, Z. X., Ho, K. F., Ho, S. S. H., Liu, S. X., Han, Y. M., Watson, J. G., Wang, G. H., and Huang, R. J. (2014), Characterization and seasonal variations of levoglucosan in fine particulate matter in Xi'an, China, *Journal of the Air & Waste Management Association*, 64(11), 1317-1327, doi:10.1080/10962247.2014.944959.

- Zhang, X. L., Trzepla, K., White, W. H., Raffuse, S., and Hyslop, N. P. (2021), Intercomparison of thermal-optical carbon measurements by Sunset and Desert Research Institute (DRI) analyzers using the IMPROVE_A protocol, *Atmospheric Measurement Techniques*, 14(4), 3217-3231, doi:10.5194/amt-14-3217-2021.
- Zhang, X. Y., Wang, Y. Q., Niu, T., Zhang, X. C., Gong, S. L., Zhang, Y. M., and Sun, J. Y. (2012), Atmospheric aerosol compositions in China: spatial/temporal variability, chemical signature, regional haze distribution and comparisons with global aerosols, *Atmospheric Chemistry and Physics*, 12(2), 779-799, <http://www.atmos-chem-phys.net/12/779/2012/acp-12-779-2012.pdf>.
- Zhang, Y. Y., Obrist, D., Zielinska, B., and Gertler, A. W. (2013), Particulate emissions from different types of biomass burning, *Atmospheric Environment*, 72, 27-35.
- Zhang, Y. Y., Jia, Y., Li, M., and Hou, L. A. (2018), Characterization of carbonaceous species in PM_{2.5} in Xi'an during spring, *Environmental Forensics*, 19(2), 150-154, doi:10.1080/15275922.2018.1448910.
- Zhang, Z. Z., Gao, Y., Yuan, Q., Tan, Y., Li, H. W., Cui, L., Huang, Y., Cheng, Y., Xiu, G. L., Lai, S. C., Chow, J. C., Watson, J. G., and Lee, S. C. (2020), Effects of indoor activities and outdoor penetration on PM_{2.5} and associated organic/elemental carbon at residential homes in four Chinese cities during winter, *Science of The Total Environment*, 739, 139684, doi:10.1016/j.scitotenv.2020.139684.
- Zhao, C., Leung, L. R., Easter, R., Hand, J. L., and Avise, J. (2013), Characterization of speciated aerosol direct radiative forcing over California, *Journal of Geophysical Research-Atmospheres*, 118(5), 2372-2388.
- Zhao, H. M., Tong, D. Q., Lee, P., Kim, H., and Lei, H. (2016), Reconstructing fire records from ground-based routine aerosol monitoring, *Atmosphere*, 7(3), doi:10.3390/atmos7030043.
- Zhao, Z. Z., Cao, J. J., Shen, Z. X., Xu, B. Q., Zhu, C. S., Chen, L.-W. A., Su, X. L., Liu, X. S., Han, Y. M., Wang, G. H., and Ho, K. F. (2013), Aerosol particles at a high-altitude site in Southeast Tibetan Plateau, China: Implication of pollution, *Journal of Geophysical Research-Atmospheres*, 118(19), 11360-11375.
- Zhang, X., K. Trzepla, W. White, and N. P. Hyslop (2022), Quantifying residual elemental carbon by thermal-optical analysis using an extended IMPROVE_A protocol with higher maximum temperature, *Journal of the Air & Waste Management Association*, 72(11), 1316-1325, doi:10.1080/10962247.2022.2119306.
- Zheng, N., Song, S. J., Jin, X. L., Jia, H. Y., Wang, Y., Ji, Y. Q., Guo, L. Q., and Li, P. H. (2019), Assessment of carbonaceous aerosols at Mount Tai, North China: Secondary formation and regional source analysis, *Aerosol and Air Quality Research*, 19(8), 1708-1720, doi:10.4209/aaqr.2019.06.0316.
- Zhi, G. R., Chen, Y. J., Sun, J. Y., Chen, L. G., Tian, W. J., Duan, J. C., Zhang, G., Chai, F. H., Sheng, G. Y., and Fu, J. M. (2011), Harmonizing aerosol carbon measurements between two conventional thermal/optical analysis methods, *Environmental Science & Technology*, 45(7), 2902-2908.
- Zhou, J. M., Cao, J. J., Zhang, R. J., Chow, J. C., and Watson, J. G. (2012), Carbonaceous and ionic components of atmospheric fine particles in Beijing and their impact on atmospheric

visibility, *Aerosol and Air Quality Research*, 12(4), 492-502,
http://aaqr.org/VOL12_No4_August2012/4_AAQR-11-11-OA-0218_492-502.pdf.

Zhou, Y. Q., Wang, Q. Y., Huang, R. J., Liu, S. X., Tie, X. X., Su, X. L., Niu, X. Y., Zhao, Z. Z., Ni, H. Y., Wang, M., Zhang, Y. G., and Cao, J. J. (2017), Optical properties of aerosols and implications for radiative effects in Beijing during the Asia-Pacific Economic Cooperation Summit 2014, *Journal of Geophysical Research-Atmospheres*, 122(18), 10119-10132, doi:10.1002/2017jd026997.

Zhu, C. S., Cao, J. J., Tsai, C. J., Shen, Z. X., Ho, K. F., and Liu, S. X. (2010), The indoor and outdoor carbonaceous pollution during winter and summer in rural areas of Shaanxi, China, *Aerosol and Air Quality Research*, 10(6), 550-558.

Zhu, C. S., Chen, C. C., Cao, J. J., Tsai, C. J., Chou, C. C. K., Liu, S. C., and Roam, G. D. (2010), Characterization of carbon fractions for atmospheric fine particles and nanoparticles in a highway tunnel, *Atmospheric Environment*, 44(23), 2668-2673.

Zhu, C. S., Tsai, C. J., Chen, S. C., Cao, J. J., and Roam, G. D. (2012), Positive sampling artifacts of organic carbon fractions for fine particles and nanoparticles in a tunnel environment, *Atmospheric Environment*, 54, 225-230.

Zhu, C. S., Cao, J. J., Shen, Z. X., Liu, S. X., Zhang, T., Zhao, Z. Z., Xu, H. M., and Zhang, E. K. (2012), Indoor and outdoor chemical components of PM_{2.5} in the rural areas of northwestern China, *Aerosol and Air Quality Research*, 12(6), 1157-1165.

Zhu, C. S., Cao, J. J., Tsai, C. J., Shen, Z. X., Han, Y. M., Liu, S. X., and Zhao, Z. Z. (2014), Comparison and implications of PM_{2.5} carbon fractions in different environments, *Science of the Total Environment*, 466, 203-209.

Zong, P., Zhu, Y., Wang, H., and Liu, D. (2020), WRF-Chem simulation of winter visibility in Jiangsu, China, and the application of a neural network algorithm, *Atmosphere*, 11(5), doi:10.3390/atmos11050520.