



Increasing ozone associated with decreasing fine particle in eastern China: Evidence from the SORPES station, 2011-2018

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Ozone and fine particle currently are the two air pollutants with great concerns in China. Continuous measurement of the both pollutants and relevant precursors are very important for improving the understanding of the impact of anthropogenic activities on air quality, atmospheric chemistry and climate change. Since 2011, a comprehensive “flagship” measurement station, the Station for Observing Regional Processes of the Earth System (SORPES), has been established in Nanjing in the Yangtze River Delta (YRD) in eastern China to continuously measure ozone, its precursors, PM_{2.5} mass concentration and the speciated chemical components (Ding et al., 2013; Ding et al., 2016). The suburban environment in upwind area of the city and downwind the most polluted northern and eastern China Plains as well as the city clusters in the YRD makes this site an ideal location to record the impact from intensive anthropogenic activities as well as strong control measures at regional scale (Ding et al., 2016). In this study, we report the results of continuous ozone and PM_{2.5} during the period of 2011-2018. An increasing trend of ozone associated with a decreasing trend of PM_{2.5} are observed at this site. The main factors and processes that influence the trend, interannual variability, and the interactions between ozone and PM_{2.5} as well as their precursors are discussed.

Reference:

Ding, A., C. Fu, et al., Ozone and fine particle in the western Yangtze River Delta: an overview of 1 yr data at the SORPES station, *Atmos. Chem. Phys.*, 13,11, 5813-5830,2013.

Ding, A., W. Nie, X. Huang, X. Chi, J. Sun, V.-M. Kerminen, Z. Xu, W. Guo, T. Petaja, X. Yang, M. Kulmala, and C. Fu: Long-term observation of air pollution-weather/climate interactions at the SORPES station: a review and outlook, *Front. Environ. Sci. Eng.*,10 (5): 15, di:10.1007/s11783-016-0877-3, 2016.