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O_3 and its precursors in Shanghai, China: Characteristics and insights on regional control policy

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Ozone pollution become a major topic in summer seasons in Shanghai, the largest megacity in Yangtze-River-Delta Region. Series of measurements on ozone and its precursors were taken at ozone season in 2014-2017. The characteristics of VOCs in city center, suburban area and industrial area were quite distinctive. Aromatics were the main contributor to ozone pollution in city center area while alkenes were important in industrial area. Regional transport of air mass brought large amount of ozone in some polluted cases. Ozone LIDAR was applied to investigate the vertical profile of ozone concentration in boundary layer and ozone transport. A detailed analysis on transport route showed that ozone produced in surrounding cities could transport up to several hundred kilometers, leading to a severe influence on night chemistry of Shanghai. The control policy of ozone in Shanghai was developed based on the founding above.