, *, , , ,
(, , 510308)

: 2014 、 、 SO_2、NO_2、PM_{10}、O_3、$PM_{2.5}$ CO
, 。 ,4 SO_2、NO_2、PM_{10} CO , 14,28,
59 μg/m³ 0.7 mg/m³;$PM_{2.5}$ 36 μg/m³,O_3 8 h 90 172 μg/m³,
。 ,NO_2、PM_{10} $PM_{2.5}$
。 $PM_{2.5}$;O_3 , 、 。
O_3 NO_2、PM_{10} $PM_{2.5}$ 。4 O_3 8 h 90 ;
O_3 , 10 , 1 6 O_3 。 O_3 。

: ; ; ; ; ; ;
:X823 :B :1674 -6732(2015)05 -0045 -07

Comparison of Air Pollution Properties among Diverse Environments in Guangdong

YUE Ding-li, ZHONG Liu-ju*, XIE Min, YUAN Luan, ZHANG Ying, JIANG Ming
(, , 510308,)

Abstract: Based on the concentrations of SO_2, NO_2, PM_{10}, O_3, $PM_{2.5}$, and CO automatically measured at Nanling background site, Tianhu suburban site, Modiesha urban site, and Taoyuan site in the downwind region in the year of 2014, the air pollution properties among diverse environments in Guangdong were analyzed. The results showed that the annual average concentrations of SO_2, NO_2, PM_{10}, and CO were low, which were 14, 28, 59 μg/m³ and 0.7 mg/m³, respectively. The annual average concentration of $PM_{2.5}$ was 36 μg/m³, and the average 90th percentile values of daily maximum O_3 which was 8 h concentrations was 172 μg/m³. Both of them exceeded the second grade limit of the national standards. Diurnal variation patterns of pollutants at Modiesha and Taoyuan were clear. NO_2, PM_{10} and $PM_{2.5}$ showed two peaks during or just after the morning and night rush hour. At Nanling the mass concentrations of $PM_{2.5}$ during daytime were higher than those at night, and O_3 kept at a stable high level without a typical unimodal distribution. The relative concentration level of O_3 between the weekend and weekday was in contrary to those of NO_2, PM_{10} and $PM_{2.5}$. The 90 th percentile values of daily maximum O_3-8 h concentrations at the four sites violated the standards. The annual average O_3 concentrations at Nanling and Tianhu were especially high, and they showed high O_3 concentrations in January or June besides October. It suggested that O_3 pollution control in a regional scale was in urgent need.

Key words: Air pollution; Diverse environments; Temporal variation pattern; O_3; $PM_{2.5}$; PM_{10}; Guangdong

30 , SO_2 [2], O_3
,“ ” SO_2 ,
[1] 。

:2015 -05 -12; :2015 -06 -03
: (41303075);
, , - (U1301234);
, , (201506010079)

: (1982—), , , ,
, , 、 。
* : E-mail:13924193008@139.com
、