General comments :

Stratosphere-troposphere exchange (STE) is an important source of tropospheric ozone. In this manuscript, the authors present important observational evidence that the intrusion of O3-rich air from the upper troposphere and lower stratosphere (UTLT) plays a critical role in the large increase of surface O­3 over the Southeast China coastal region before a typhoon landing. The observational analyses demonstrate no change for surface NO2­ and a significant increase in nocturnal O3 concentrations before the typhoon landing. In addition, the prevailing easterly winds were observed during the period of elevated O3. The first one implies the negligible photochemical productions of O3 and the third one indicates no regional transport from polluted areas during the O3 episode period. The authors conclude that the stratospheric intrusion plays a dominant role in the elevated surface O3. The finding is confirmed further by the negative correlation between O3 and CO. In general, the manuscript is well written. The topic represents a great practice interest and the study provides a better understanding of the mechanism of the typhoon-related O3 episodes. The manuscript is appropriate for publication by ACP after minor changes.

Specific comments

1. There is no doubt that the intrusion of O3-rich air from the UTLT region is critical to occurrence of the O3 episode. However, it is not sufficient to draw the conclusion that the photochemical production of O3 is negligible if the NO2 concentration is not changed. As we know, the weather is characterized by the clear sky, strong solar radiation, weak wind, and stable atmospheric boundary layer when a typhoon is about 600 to 1000 km away. All these are the favorable conditions for photochemical production of O3. It is possible that the unchanged NO2 is due to dilution of clean air mass since easterly is the prevailing wind during the period. In addition, if photochemical production of O3 is not active, we should not see the diurnal variation of O3 during the episodes. But this is not confirmed with Figure 3.
2. In Figure 4, please provide time-series plot of wind speeds and wind directions for better understanding.
3. On P9/L1-4, the sentence needs to be re-written.
4. On P7/L5, Please change “Figures 5a, 5b, and 5c present …” to “Figure 5 presents ...”