

Interactive comment on “Year-round record of near-surface ozone and “O₃ enhancement events” (OEEs) at Dome A ,East Antarctica” by Minghu Ding et al.

Anonymous Referee #2

Received and published: 4 September 2020

Ozone is a major short-lived air pollutant when presents near ground, besides, it is a greenhouse gas that exerts direct influence on radiative forcing. The understanding of the variability and source of ground ozone in Antarctica remained limited, particularly in the inner Antarctica. In this paper, authors reported year-round observation of ozone in Dome A, the highest plateau in the Antarctica, they also compiled observation data from South Pole and a costal site to make comparison. They revealed the occurrence of ozone enhancement events (OEEs) at Dome A and analyzed the possible sources and transport that contribute to the OEEs. The technical quality of the paper, including its observation and data analysis, is generally good. I have two major concerns on the manuscript.

Printer-friendly version

Discussion paper



1. The ESSD journal concentrates on datasets and the related process of data production. The current version of the paper did provide valuable time series of year-round ozone observation at Dome A, but it reads more like a research paper and author performed comprehensive diagnoses on the OEEs. I would leave the decision on the suitability of the paper for the journal to the editor.

2. Authors focused on ozone variability and OEEs at Dome A, they also included data from South Pole and a coastal site of Zhongshan Station and revealed different patterns of ozone variabilities in the three sites. However, in section 4, authors only analyzed the OEEs at Dome A site. The question is what's the purpose of including data from other two sites? Section 3 and 4 are not closely linked and I suggest authors to rethink the aims of the paper to stick to the main topic, e.g., differences in variabilities of ozone at three sites and possible reasons, or alternatively, the finding of strong OEEs at Dome A and its possible underlying mechanisms.

3. Figure 8 and 9 can be combined into one figure and the layouts of the figure should be re-designed to make it neat and clear.

Interactive comment on Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-130>, 2020.

[Printer-friendly version](#)[Discussion paper](#)