

Review

Hoque et al., using the observation results of Tropospheric Ozone Monitoring Experiment (TROPOMI), Atmospheric Tomography Mission (ATom) and Multi-axis Differential Optical Absorption Spectroscopy (MAX-DOAS), evaluated the HCHO simulation obtained from the global chemical transport model CHASER with a horizontal resolution of 2.8×2.8 in the past two years. The structure of the manuscript is reasonable and the amount of data processed is relatively large. And the content of this manuscript conforms this magazine. I recommend this paper for publication after minor revisions.

Major comments

1. The abstract describes the evaluation of HCHO simulation obtained from global chemical transport model CHASER with horizontal resolution of 2.8×2.8 in the past two years. The abstract is a highly concise summary of the full manuscript. The abstract of the manuscript should indicate which two years of data were evaluated. Please add relevant content in the abstract.
2. In the manuscript abstract, the variation of the simulation time (daily and diurnal) of formaldehyde mixture ratio has a good correlation with the MAX-DOAS observation results. However, the correlation $R=0.41$ or $R=0.40$ in the manuscript does not show that there is a good correlation between the two results. This part is not properly described by the author, please make adjustments.
3. The observed value of MAX-DOAS is generally column concentration, while the HCHO value observed by MAX-DOAS in this manuscript is ppbv. How did the author make the conversion? Please add the description of relevant content.
4. In the manuscript content, it is described that the MAX-DOAS observations between 12:00 and 15:00 are selected for average, and then in Figure 8, the author expresses the meaning of choosing the observations between 12:00 and 14:00. Please check it carefully.

Detailed comments

1. Line 296: The HCHO columns' peaks are compatible with the peak in isoprene concentrations (Fig. S3), manifesting a strong biogenic contribution during summer. In Fig.S3, the legend is not complete, please check it carefully.
2. Line 314: Fig.S2 is ATom-4 flight track, which cannot be seen the peaks in the HCHO variability coincide with the isoprene peak in these regions
3. Line 387: Both datasets show enhanced HCHO levels during spring., consistent with high isoprene concentrations (Fig.) The manuscript does not indicate which drawing it is, please check it carefully.