

Comments to the author:

Dear authors,

I see the revised manuscript has been improved. However, discussion on the dilution factor using CO has a flaw. Background CO concentration level must be subtracted before the analysis. Assuming your lowest CO concentration (167 ppbv) as background, hourly CO averages around noon are 493 and 379 ppbv should result in a much higher dilution factor, around 1.54.

Else the revision is successful, though English needs to be improved.

Yugo Kanaya, ACP Editor

Response:

Dear Prof. Kanaya,

Thanks for the comments. Please see the response below (Comments in Black; Response in Blue; Changes in Red). Line numbers mentioned in this reply refer to our revised version with changes tracked.

The English of this manuscript was improved. In addition, we recalculated the dilution factor. Noontime CO at the summit station was subtracted by the background CO level that was assumed as the CO minima of the summit measurements. We didn't do that for the foot CO level because the plume was diluted by the air along the slope of the mountain and at the summit level.

Changes in L324-327

The measured hourly CO averages at noon are 493 and 379 ppbv at the foot and the summit stations, respectively (Figure 5). Taking the minima of CO measurements as the background CO level (167 ppbv), we can obtain a dilution factor of 2.3. The dilution process may also similarly affect HONO, i.e., α is expected to be reduced by a factor of 2.3, leading to α values of >31% and >19% with $t_{\text{transport}} = 7$ or 17.5 min, respectively.