We thank Referee #1 for giving us the opportunity to make some points clear. Please find below in blue the responses to the comments.

I want to thank the authors for addressing my previous questions/comments.

I think the authors ***should be more clear about the main goal of the paper****.*

In case the main goal is to detect the plume, why not take advantage of satellite data?

In case the authors want to identify and quantify the plume, then the combination of the AERONET and MAX-DOAS would be more aligned.

The main goal of our study was not only to detect, but to identify and quantify the plume. For the detection of the plume, satellite data would probably be sufficient to identify the main aspects such as source and transport of some constituents of the emissions. However, in the case discussed in this manuscript, satellite data was unable to fully describe the increase in aerosol loading, and the presence of HCHO and CHOCHO over Montevideo, which was demonstrated by MAX-DOAS and AERONET measurements. The main reasons are the higher detection limit and the limited time coverage of the satellite data.

Although the simultaneous use of satellite and ground-based measurements seems redundant at first glance, we have attempted to show how combining these complementary measurements provide a better overview of the emissions released during low-intensity biomass combustion and their impact at long distances from the sources.

We think that this is already covered by the last sentences of the abstract:

"*This study underscores the potential of ground-based atmospheric monitoring as a tool for detection of such events. Furthermore, it demonstrates greater sensitivity compared to satellite when it comes to detection of relatively small amounts of carbonyls like glyoxal and formaldehyde."*

Another point is related with the number of cases the authors presented. Is it possible to apply the methodology proposed in the paper to others plume events?

It would certainly be possible to apply the proposed methodology to observe other biomass burning events. This depends on the magnitude of the event and the transport direction of the emissions. For example, Alvarado et al., 2020 investigated an intense wildfire event where similar species were transported over Canada, mainly using satellite data. There are also other reports that make use of this kind of methodology to describe the anthropogenic effects on the atmospheric composition of the species considered in this study (e.g. Benavent et al., 2019; Ryan et al., 2023).

In South America, uncontrolled fires of different types of vegetation are frequently observed, especially within the Amazonian rainforest. To the best of our knowledge, this is the first report of low-intensity wildfires in South America described using the combination of tools mentioned above. Gathering information to continue this research is one of the long-term goals of our research group, as these techniques could help fill the knowledge gap in the Southern Hemisphere.

We tried to make clear this point in the summary of the manuscript:

"Continuous measurements of this type of stations at several locations on the South-American continent would provide valuable information on the regional and continental scale effects of wild fires. They also would deliver the data needed to validate atmospheric models to investigate the chemical processes in the plumes."

References:

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Ryan, R. G., Marais, E. A., Gershenson-Smith, E., Ramsay, R., Muller, J.-P., Tirpitz, J.-L., and Frieß, U.: Measurement report: MAX-DOAS measurements characterise Central London ozone pollution episodes during 2022 heatwaves, Atmos. Chem. Phys., 23, 7121–7139, https://doi.org/10.5194/acp-23-7121-2023, 2023.