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Interpretation of 2B UV absorption O3 measurement in wildland fire plumes

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Community comment on "Ground-based investigation of HO_x and ozone chemistry in biomass burning plumes in rural Idaho" by Andrew J. Lindsay et al., Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2021-702-CC1, 2021

The manuscript claims that "O3 was measured by a 2B-Tech UV absorption instrument." This instrument (along with most UV absorption instruments) measure ozone at 253 nm. UV photometric ozone monitors, including the 2B instruments, are known to produce significant positive interferences due to VOC's and particulate matter in wildland fire plumes. These interfrences tend to be correlated with CO concentrations. The Authors do not sufficiently address this analytical artifact in the manuscript and how they corrected for or addressed it. Given that the delta O3 vs delta CO ratio was a critical aspect of this paper, authors should provide additional description of how they corrected their O3 measurements for fire related smoke artifacts or provide a justification for why such an artifact is not present in their data.

References to VOC and particulate artifacts in UV-photometric ozone measurements:

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