

Atmos. Chem. Phys. Discuss., referee comment RC1
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Comment on acp-2022-178

Anonymous Referee #1

Referee comment on "Changing ozone sensitivity in the South Coast Air Basin during the COVID-19 period" by Jason R. Schroeder et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2022-178-RC1>, 2022

In this study the potential impacts of NO_x emission changes on surface ozone productions during Summer (June – July) of 2020 over the South Coast Air Basin (SoCAB) prompted by COVID-related precautions are investigated, and a multi-perspective approach integrating all three data sources (satellite data, surface monitors, and a regional chemical transport model) is used to paint a cohesive picture of the O₃ photochemical regime. This study shows that the COVID-19 emission reduction did not change O₃ pollution much (only caused the O₃ concentration to increase by up to 1.2 ppb from March to mid-April and mostly decrease by up to 2 ppb from late April to early July with emissions of NO_x decreased by 15-20% during Spring (April – May) and 5-10% during Summer (June – July) relative to expected emissions for 2020, largely due to changes in mobile source activity), but the NO_x reductions were on average sufficient to shift O₃ chemistry in the basin into a NO_x-limited regime. The manuscript is clearly written and the conclusions are clearly elaborated. I suggest it accepted for publication