Atmos. Chem. Phys. Discuss.,
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Atmospheric Chemistry and Physics Discussions



# *Interactive comment on* "Sensitivity to grid resolution in the ability of a chemical transport model to simulate observed oxidant chemistry under high-isoprene conditions" *by* Karen Yu et al.

**Anonymous Referee #2**

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The authors explain and show concisely the main thesis of the manuscript which falls within the scope of the journal. References and discussion of previous work is sufficient. I recommend publication with minor revisions.

Main comments

Many aspects (mostly chemical) are left to other papers which are not all available in ACPD yet (e.g. Travis et al.). Therefore, I would like to see in the manuscript the relative differences for the simulated daytime ozone levels going from 2°x2.5° to 0.25°x0.3125° resolution. Such a figure for August at the surface and at 4 km would be sufficient and help make the point of the authors clearer.



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Discussion paper

The authors discuss the segregation of isoprene and NOx emissions and of isoprene oxidation pathways. These statements need some abstraction by the reader and are obvious. They should be substantiated by calculations. The literature I am aware of discusses the intensity of chemical segregation between two species like isoprene and OH and not between two pathways or emissions. Please add mathematical definitions, calculations and a figure for different model resolutions.

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Discussion paper