

Interactive comment on “The potential of OCO-2 data to reduce the uncertainties in CO₂ surface fluxes over Australia using a variational assimilation scheme” by Yohanna Villalobos et al.

Anonymous Referee #2

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This manuscript is much improved over the previous submission. I think this is an important contribution, as it addresses many important questions about regional-scale inversions with satellite data, which to my knowledge has not been handled previously.

Other than a few minor revisions, I recommend publication.

Page 2, Line 15: "More uniform sensitivity" - More uniform than what? This is probably a reference to TES and AIRS, but need to be clear.

Page 6, line 4: Kiel et al (2019) is the best reference for the v9 data product

Page 9, Line 2: Missing reference "(Author, b)

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Section 5: This is a bit unsatisfying, as the fluxes aren't reported. Is there a reason not to report the fluxes?

Page 25, Line 14: More accurately "simulate" concentrations?

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-874>, 2019.

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