

Geosci. Model Dev. Discuss., author comment AC3
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Reply on RC2

Edmund Ryan and Oliver Wild

Author comment on "Calibrating a global atmospheric chemistry transport model using Gaussian process emulation and ground-level concentrations of ozone and carbon monoxide" by Edmund Ryan and Oliver Wild, Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2021-39-AC3>, 2021

Additional comments for author's responses to RC2 (I didn't copy and paste the following text by mistake):

These results (from figure 1) clearly demonstrate that including a discrepancy term makes no substantial difference to the derived posterior distributions for the situation that we are considering here. We therefore feel that in the absence of clear justification for the use of the term and how it might be estimated, our results stand as they are.

Changes made to the manuscript: The results relating to the reanalysis data remain unchanged, but we have included a note about why including a discrepancy term may be useful in some calibration studies, and highlighting the point that including a discrepancy term here has been found not to affect the results.