

We would like to thank the reviewer for the very careful and thorough review.

The optical depth of contrails in our instantaneous calculations is up to 0.03 over regions with the heaviest air traffic (see Fig. 1), which is lower than that of contrail cirrus in our integrated simulations. Thus, we think that the reviewer's speculation might not be what happened in our simulations.

We believe that the reason why we did not obtain two daily minima for contrail shortwave forcing was due to the assumed ice shape recipe in CAM5. Since there is no distinct cloud type for contrails, the shape recipe for contrails has to follow what is assumed for natural ice clouds which is a mixture of various shapes. We believe that this will require further investigation by allowing a separate cloud type and shape recipe for contrails in CAM5. This has been added to the discussion in the manuscript.

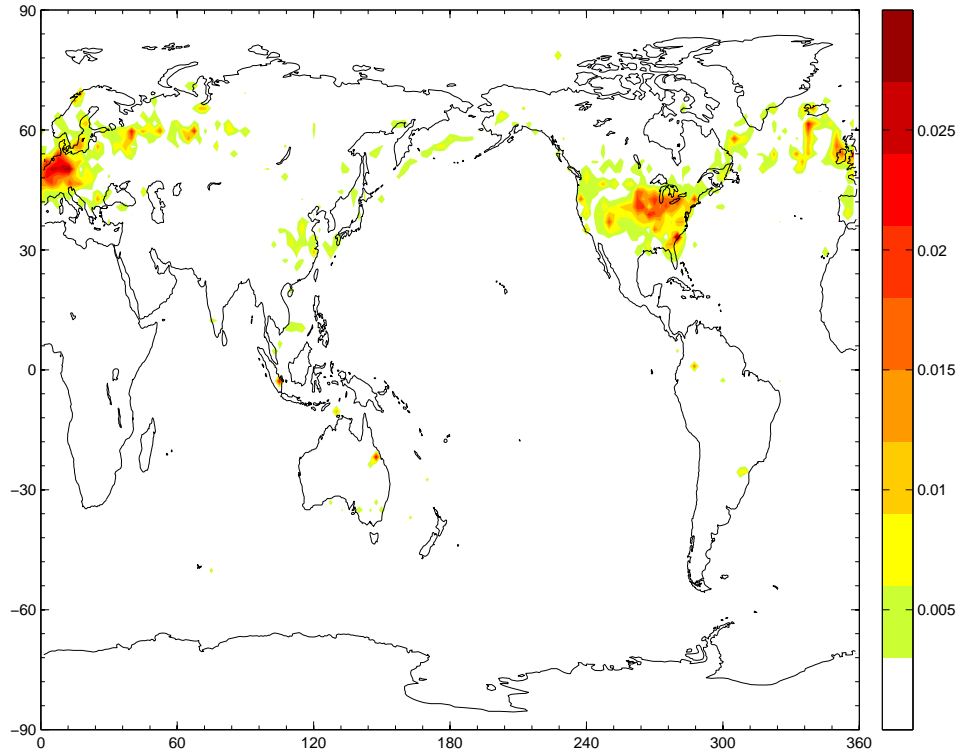


Figure 1. The annual average of contrail optical depth in the instantaneous calculations.