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Interactive
comment

- page 3 line 13: "we investigate the impact of the Mt. Pinatubo eruption on climate and stratospheric chemistry". The authors only show changes in temperature and w*, too little to speak about changes in climate. I would explicitly write "we investigate the impact of the Mt. Pinatubo eruption on stratospheric temperatures and chemistry".

- section 2.3 is not very clear. Starting from the title, I would spell out the full names of the databases: "The SAGE-3λ and SAGE-4λ". Initially I wondered if the authors where introducing a third database that merges SAGE-3λ and SAGE-4λ. Secondarily, I do not understand the steps. Step 1 is the calculation of n, r, and σ from the different wavelengths. But what is step 2? Which correction is calculated? Or did you mean "correlation"? Also, what are the remaining two parameters, n and σ? But they have already been obtained in step 1.

- figure 4: The authors compare with MERRA and ERA-Interim to establish which one of the two databases lead to better simulations. However, reanalysis might not be the best tool to evaluate a model after a volcanic eruption, as they are driven by satellite data which might not be reliable after such strong perturbation. Additionally, they might not respond correctly to such a strong and sudden perturbation. I would suggest to add a comparison to measurements, many of which as cited in the introduction.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2017-633, 2017.