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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Impact of the eruption of Mt. Pinatubo on the chemical composition of the stratosphere" *by* Markus Kilian et al.

Ales Kuchar

ales.kuchar@uni-leipzig.de

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Dear authors,

this short comment is mainly concerned with the simulated volcanic heating which you stated to be of 3.5-4 K between 50-60 hPa in VOL agreeing well with results from Labitzke and McCormick (1992), who observed a stratospheric heating at 50 hPa of 3-4.5 K in the tropics. Angell (1997a), who used radiosonde data, figured out a temperature increase of approximately 3-4 K between 30-50 hPa in late 1991. However, more recent studies (Revell et al, 2017; see Fig. 4 in Kuchar et al, 2017) showed that simulations using the CCMI aerosol data set overestimate the temperature response to the Mt Pinatubo eruption and novel

CMIP6 stratospheric aerosol data are in excellent agreement with MERRA and ERA-Interim reanalyses. Whether you want to compare your results with these studies, model simulation datasets are available via British Atmospheric Data Centre; see http://catalogue.ceda.ac.uk/uuid/1005d2c25d14483aa66a5f4a7f50fcf0 or at https://data.mendeley.com/datasets/khrhbw6wn5/1 (Kuchar and Revell, 2017).

Please consider these facts in the discussion of your results.

Best regards

Ales Kuchar

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