Review of "Evaluating the simulated radiative forcings, aerosol properties and stratospheric warmings from the 1963 Agung, 1982 El Chichón and 1991 Mt Pinatubo volcanic aerosol clouds" by Dhomse et al.

This article gives an overview of the results from the UM-UKCA model simulations of the three biggest volcanic eruptions of the 20th century, and compares against available datasets. All simulations are run following the design of ISA-MIP.
In light of both CMIP6 and the release of the new generation of models, and also of ISA-MIP, of which this study is most likely the first showing results of the simulations described in Timmreck et al. (2018), I believe this study to be of great importance and a very good fit for ACP.

I have some suggestions to improve the presentation of the results and the discussion in this paper before it can be published. After these minor comments are addressed, the study can certainly be published in ACP.

Some broad comments:

• "Evaluation dataset" section: this section is a bit confused and hard to follow. I suggest a table for the supplementary (similar to Table 1), at least, that sums up all of this information, including columns for timespan, type of observation and link to the dataset.
• Supplementary: the reference is missing at line 4

In general, I suggest a more careful check of the grammar of the manuscript: some phrases seem to be written in haste, and it could make for a much more enjoyable read if the style was a bit easier to understand. I offer some examples below:

Lines 277-280: this phrase needs a bit of rewording, it's confusing.
Line 288: "the" lower end
Line 341: I think here you might be referring to the other Pitari et al. (2016) paper (Stratospheric Aerosols from Major Volcanic Eruptions: A Composition-Climate Model Study of the Aerosol Cloud Dispersal and *e*-folding Time) that discusses the effects of the QBO phase on the cloud dispersal.

Lines 343-345: While true that both cited paper mention the low altitude of the aerosols formed after the Hudson eruption, both remark that indeed the effect of that eruption was clearly distinguishable from the one from Pinatubo. From the conclusions of Pitts and Thomason (1993):

"Below 15 km, Cerro Hudson aerosols were transported poleward during September and remained a persistent feature beneath the vortex throughout the spring"

I understand that the experiments shown in this paper are part of ISA-MIP and thus part of a strict protocol, but I would just not be so quick in dismissing the Hudson eruption, especially in explaining the differences shown in Fig. 2 against the CMIP6 database, that are much larger in the southern hemisphere (where the Hudson eruption had more effect). I would like to see this discussed a little bit more in the manuscript (and, as a curiosity, see how the results change if this eruption is included, but I'm not suggesting to the authors do that for this work).

Line 371: "the more SO2 *is injected"*? and then, "within *the* first few months"
Line 375: *the* first three months

Line 378: *the* balance (there's a few of these here and there in the manuscript…)
Lines 385-388: this phrase needs to be checked, it seems like it's been written in haste and it doesn't make much sense
Lines 404-407: this phrase is also hard to follow: why is "and smaller" between parenthesis?
Line 462: Certainly, this phrase can be made a bit more coherent
Line 487: Why "enact" an sAOD? Seem like the wrong verb to use
Line 621: it is *a* common feature
Fig. 1: The legend is a bit hard to follow: there is no line for the (I assume) Pin00 simulation. The last phrase of the caption (…using simple linear fit using 6 month S-burden (±3) time series) should be expanded to better explain what the authors have done.
Fig. 2,8: The southern latitudes should either have a minus sign, or S after the number.
Fig. 3: Panel h) has some lines that go outside the frame. Also, some figures have Pin00 while some have "Control". More consistency would make it easier to understand.
Fig. 5: "lambda"
Fig. 12: Lexington with a capital L. Also, the dashed line is very hard to follow, since the noise seems to be high. Maybe having just the dots for the single observations is better?
Fig. 13: Labels are cut in this figure

References

Pitari, G., Genova, G. D., Mancini, E., Visioni, D., Gandolfi, I., & Cionni, I. (2016). Stratospheric aerosols from major volcanic eruptions: A composition-climate model study of the aerosol cloud dispersal and e-folding time. *Atmosphere*. https://doi.org/10.3390/atmos7060075