

Interactive comment on “Assimilation of stratospheric and mesospheric temperatures from MLS and SABER into a global NWP model” by K. W. Hoppel et al.

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We thank Dr. Feofilov for his comments on our brief summary of the temperature biases in the SABER V1.06 retrievals as reported by Kutepov et al. (2006). Specifically, when revising the paper, we will modify section 3.3 to note that the summer mesopause temperatures can be up to 10 K too cold, rather than the 5 K mean bias that we cite in the present manuscript.

Like much previous SABER science, this work was performed with V1.06 retrievals, since V1.07 retrievals were not available at the time. In the planning of our assimilation experiments, we were well aware of the limitations of the V1.06 temperature retrievals discussed by Kutepov et al. (2006). Accordingly, we restricted temper-

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ature assimilation to 0.01 hPa and focused on the northern winter during the time period when SABER was primarily yawed north, to mitigate effects of this summer mesopause V1.06 temperature bias. We are pleased that Dr. Feofilov concurs that our choices mean that our results are not significantly impacted by differences between V1.07 and V1.06, therefore eliminating the need for a time-consuming reanalysis of this period with newer V1.07 retrievals. Readers should also note that we have submitted another paper which reports new assimilation results that use V1.07 SABER retrievals, allowing us to extend the vertical range of the SABER assimilation to 0.002 hPa and thus study the summer mesopause (Eckermann et al., 2008: see footnote 2 on p8460). At the time of writing, this paper is still in review: interested readers can check its status and download the latest version at: <http://uap-www.nrl.navy.mil/dynamics/html/nogaps/publications.html>.

When the current paper was drafted, there was no published work on the complete V1.07 temperature retrieval either. The Mlynczak et al. (2007) citation was the best compromise at that time, since their work focuses on one aspect of the entire V1.07 retrieval issue. Since then, a paper by Ellis Remsberg and colleagues specifically devoted to the V1.07 temperature retrievals has been submitted to The Journal of Geophysical Research. Thus we will replace the Mlynczak et al. (2007) reference with the Remsberg et al. (2008) reference in the revised manuscript.

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