

***Interactive comment on* “Study on the impact of sudden stratosphere warming in the upper mesosphere-lower thermosphere regions using satellite and HF radar measurements” by N. Mbatha et al.**

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The authors thank the Referee’s comments and his/her useful comments and suggestions

1. When using SABER data in the MLT one should be careful because the observation errors of SABER temperature are very large. The authors should discuss the impact of the large error on the some conclusions of this paper

Reply: Now, it has been discussed in our discussion and concluding section.

2. On page 10 the authors pointed out that NCEP data can be used to identify SSW and final warming. However from Fig.1 only SSW (around September 27) can be identified. Temperature does not retreat back to its pre-warming value.

Reply: As per referee suggestion, we have looked at the NCEP temperature results for late September 2002 and identified that the temperature fluctuation in early August is not significant in such a way that it can be labelled as a final warming in early August. Thus, we removed the “and final warming” on page number 10.

About the mesospheric cooling in the SH during the 2002 SH SSW the work of Ren et al. (GRL, vol 35, doi:10.1029/2007GL032699) has very detailed discussions based on CMAM-DAS analysis data. The results of that work may be helpful in interpreting the authors' results.

Reply: As per referee suggestion, we have discussed and referred our result with Ren et al., [2008] and Holton [1983] studies.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 23051, 2009.

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