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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Mesoscale temperature fluctuations in the Southern Hemisphere stratosphere" *by* B. L. Gary

Anonymous Referee #2

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1 General comments

In this article the author extends to measurements obtained in the southern hemisphere (SH) an earlier analysis of mesoscale fluctuations of (potential) temperature. This appears useful regarding potential applications the author has mentioned in his companion article, and the paper should be published therefore. However, it could gain significance and influence if the somewhat surprising result would not only be reported but also discussed.

It turns out the the same kind of model that predicts MFA can be used for the SH as for the NH (at least for the testable predictors). However, the sensitivity of MFA to latitude

and season is about three times smaller in the SH than in the NH, and this surprising difference calls for a discussion. It would be fruitful for the paper and for its further use if such a discussion could at least be initiated.

2 Minor comments

p 9168, ll 13/14: MFA could be defined here again for the convenience of the reader.

p 9170, l 24: RAOB should be spelled out in brackets.

p 9171, ll 4–11: I have read the companion article again before writing the review and was surprised to find the “Winterness” parameter defined differently in both articles. Also, the demarcation line between winter and summer is different, and here “spring” is used in addition to summer and winter. What is the reason for these inconsistent definitions? A very minor point is that “winterness” is called “wintriness” in the companion paper. Is this to somehow “justify” the inconsistent definitions?

Fig. 3: Please add a label to the y–axis (e.g. “number of cases”).

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 9167, 2008.