

Interactive comment on “Mesoscale temperature fluctuations in the stratosphere” by B. L. Gary

Anonymous Referee #2

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This paper offers a simple model for mesoscale stratosphere temperature fluctuations based on a statistical analysis of long-term aircraft observations of the microwave temperature profiler (MTP). This paper is a very useful contribution and should be published after minor revisions. However, it would be desirable to see if the analysis changes if one adds the recent ten years of MTP data; currently the model is based on ten years of data from 1988 till 1997. But this task should be left for another publication.

There are some minor remarks and comments which should be considered in the revised version.

For applying the model (Eq. 6) the user must know the topography factor. How this factor is calculated or how can this function be specified based on a digital topographic data base? Is it related to the steepness, the height, the width of the mountains?

In reviewing the historic plot of how mesoscale temperature fluctuations were at-

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tempted to include in microphysical models for PSCs, the author should refer to papers of Carslaw et al. starting with

Carslaw K.S. et al., Increased stratospheric ozone depletion due to mountain-induced atmospheric waves NATURE 391 (6668): 675-678 FEB 12 1998.

or

Voigt, C. et al., Non-equilibrium compositions of polar stratospheric clouds in gravity waves. GRL 27(23), 3873-3876, 2000.

This part of the history of science didn't end in 1991!

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 7369, 2006.

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