

Interactive comment on “Dynamics of the Antarctic and Arctic mesosphere and lower thermosphere – Part 1: Mean winds” by D. J. Sandford et al.

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Answers to referees comments:

The t-test has now been performed and comments as a result have been amended in the manuscript.

Minor Points:

Corrections have been made in line with the referee’s comments. Text and references have been added to the manuscript in line with some of the minor comments.

There is a discussion of stationary planetary wave in the mesosphere included in the

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discussion. The section highlighted (Page 17531 Line 7) is commenting on the differences in the stratospheric gravity wave fields. However planetary waves have been added to the previous section.

Removing long-period planetary wave activity by using a band stop filter of between 12.5 and 20 days has little effect (with in ~ 1 ms⁻¹) on the zonal winds. The only real effect is in the meridional winds where the summertime jet increases in equatorward amplitude by ~ 2 ms⁻¹ over both locations. This however, doesn't change the overall seasonal pattern and is difficult to include without many extra figures, therefore will not be added to the manuscript.

Referee's point about studies which suggest there are no significant differences in the winds from Meteor and MF radar: The Hall et al., 2005 result do actually see the same discrepancies above 90 km as described in the manuscript. Unfortunately, the author failed to find any studies showing that MF and Meteor radar agree to any great degree above 95 km.

Section 5 page 17550 line 16: Comments added on the interaction between stratospheric warmings and the mean flow.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 17527, 2010.

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