

## ***Interactive comment on* “Observation of a mesospheric front in a dual duct over King George Island, Antarctica” by J. V. Bageston et al.**

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### Comments and questions

1) It is suggested that the wave likely propagated in a "dual duct". I agree with other reviewers that this term should be carefully defined to prevent confusion. But would the winds alone be strong enough to produce an effective Doppler duct?

REPLY: We agree with the referees regarding the usage of the term “dual duct”, which could be misunderstood. The answer to the referee’s question is "No", i.e., the winds alone are not strong enough to produce an effective duct without the inclusion of the thermal contribution. Then, we change the term “dual duct” to “Thermal-Doppler duct”, following the suggestion of the referee.

Question 2: Same answer as before.

Minor comments

Questions 1-4: Same answers as before.

5) Like the anonymous reviewer, I might be cautious calling this a "bore", since actual wave amplitude and structure hasn't been clearly determined. . .

REPLY: Now we believe that the wave structure is well defined, but we are not qualifying this event as a bore anymore (after more careful analysis).

5.1) Nevertheless, it is certainly a moderately strong ducted wave event that exhibits front-like character.

REPLY: Besides the above characteristic, the wave front was followed by trailing waves with growth in the number of wave crests, but these characteristics are not enough to characterize the event as a bore.

Suggestions 6-7: Same answers as before.

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Interactive comment on Atmos. Chem. Phys. Discuss., 11, 16185, 2011.

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