

Interactive comment on “Numerical modeling of lower stratospheric Doppler ducted gravity waves over Jicamarca, Peru” by Z. Li et al.

Anonymous Referee #2

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This is a short review because I believe the authors need to a much better job describing what they are really seeing. While this is an interesting paper it is written in a way that makes it difficult for all, except for a few specialists, to understand what they have done. One of the main problems is not defining terms. The foremost problem is that the paper is about ducting but the terms duct and Doppler-duct are never defined. There is a relevant definition for the term duct. For example if there are regions of evanescence (m^2 less than 0 where m is the vertical wavenumber) above and below a region where $m^2 > 0$ then presumably a duct exists. I see no plot in the paper nor equations that discuss this or indicate the waves they are seeing are ducted. How is the reader to judge whether a duct is present merely by saying some of the plots resemble those in another paper. Furthermore, the authors are themselves unsure about the reality of the duct. In the Discussion they say maybe they are not seeing gravity waves (which are
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being ducted???) but rather convective rolls. What are convective rolls - no definition and no reference to this term. I am left fairly confused at the end of this work whether the authors have really presented any useful data. I believe they have but this paper does not reflect their effort.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 19011, 2011.