

Interactive comment on “Mesospheric semidiurnal tides and near-12-hour waves through jointly analyzing five longitudinally-distributed specular meteor radars at boreal midlatitudes” by Maosheng He and Jorge L. Chau

Anonymous Referee #2

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This paper is innovative in the way that it uses longitudinally-distributed ground-based wind observations to get high temporal resolution and adequate spatial resolution to identify the sidebands (USB, LSB) of the Q16DW-SW2 interaction as distinct from M2, SW1, and SW3. The conclusion that previous space-based studies may have attributed USB and LSB to SW1 and SW2 and sometimes M2 is a very important and illuminating result.

In all, the paper is very well presented with new perspectives provided by the analysis and choice figures.

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The interpretations in terms of polar vortex weakening and polar vortex classification during SSWs is also a very interesting and an important contribution. However, I wonder why correlations between USB, LSB, SW1 and SW3 with SPW and Q16DW are not reported, since the former set of waves is more directly/physically connected with SPW and Q16DW, rather than whether there is an SSW or not. It raises the questions: What is the connection between Q16DW and SSWs? For a split vortex, do S0 and SW4 replace SW1, SW3? Perhaps in the text you could explain why relationships with SPW and Q16DW are not reported, but SSW characteristics are used instead.

When comparing with CTMT, perhaps it would be beneficial to form 2-monthly means of the ground-based data so the comparison is more consistent?

line 23: consistency

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